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**City of Birmingham.**

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**REPORT**

OF THE

**MEDICAL OFFICER OF HEALTH**

FOR THE YEAR

**1921**

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BIRMINGHAM :

HUDSON AND SON, PRINTERS, EDMUND STREET AND LIVERY STREET.

1922.





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PUBLIC HEALTH DEPARTMENT,

THE COUNCIL HOUSE,

BIRMINGHAM,

*June, 1922.*

TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH  
COMMITTEE.

MY LORD MAYOR, LADIES AND GENTLEMEN,

I herewith submit the annual report of the Medical Officer of Health for the year ending December 31st, 1921.

Notwithstanding the considerable amount of distress due to unemployment, which existed during the whole of the year under review, the health statistics were among the best recorded for Birmingham. Both cases of ill-health and mortality were less in 1921 than in former years.

Tuberculosis showed a greatly reduced incidence compared with the years 1913 and 1914. The deaths, too, were considerably fewer than in pre-war years. Particularly is this noticeable in the case of deaths from non-pulmonary Tuberculosis.

The outstanding blot on the fair record of Birmingham was the conditions under which a large number of people had to live, owing to lack of housing accommodation. Great attention was given to the provision of more houses, but owing to the natural increase of population in this large city it is safe to say that the new accommodation provided did not meet even the normal increase, thus leaving the overcrowding practically as it was. We are frequently having our attention drawn to gross overcrowding and indecency, with little or no power on our part to suggest even a palliative. The housing conditions have been so defective that a good many Birmingham families have had to leave Birmingham rather than submit to the conditions existing.

While it is true that under the exceptionally bad housing conditions we have to record for 1921 one of the healthiest years on record, I am quite certain that an unenviable heritage is being laid up for the future. It is inconceivable that the rising generation can become healthy contented citizens free from vicious habits if the present bad housing conditions are allowed to continue.

I am,

Your obedient servant,

JOHN ROBERTSON,

*Medical Officer of Health*



# City of Birmingham.

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## REPORT OF THE MEDICAL OFFICER OF HEALTH FOR THE YEAR 1921.

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### POPULATION.

The decennial Census of England and Wales was taken on June 19th, 1921, and the population of the City was then found to be 919,438 persons.

For comparative purposes it is convenient to state populations as on June 30th. This would bring the Birmingham figure to 919,683 for 1921. This is the figure on which all rates are based in this report.

Unfortunately, only the total population figures are as yet available, so that for the present the Census information does not allow of a detailed examination.

The total population of Birmingham in 1921 shows an increase over the 1911 Census enumeration of 9·4 per cent.

This rate of increase was greater than in any of the ten largest cities in England, which were as follows :—

### POPULATIONS OF LARGE TOWNS.

			Population at Census, 1921.	Increase or decrease per cent. since previous census.
London	...	...	4,483,249	... -0·9
Birmingham	...	...	919,438	... +9·4
Liverpool	...	...	803,118	... +6·5
Manchester	...	...	730,551	... +2·3
Sheffield	...	...	490,724	... +6·6
Leeds	...	...	458,320	... +1·2
Bristol	...	...	377,061	... +5·6
West Ham	...	...	300,905	... +4·1
Hull	...	...	287,013	... +3·2
Bradford	...	...	285,979	... -0·9

Since the Census was taken on June 19th the Registrar-General has issued a supplementary statement, with a view to distributing holiday makers to their proper towns, it being found that on June 19th a very large number of holiday resorts were crowded with temporary dwellers. The Registrar-General suggests that the correction in the case of Birmingham amounted to 16,562, bringing the comparable population of Birmingham to 936,000. The population of Birmingham, if this holiday correction be applied increased by 11·4 per cent. since the last Census.

The rate of increase in previous Censuses was as follows :—

Census, 1871	...	...	17·2
" 1881	...	...	19·0
" 1891	...	...	9·4
" 1901	...	...	9·2
" 1911*	...	...	10·7

\*Enlarged city.

### NATURAL INCREASE OF POPULATION.

The excess of births over deaths during 1921 was 11,773 persons; in 1920 it was 13,660. In the years before the war it averaged 10,000 per year.

### MARRIAGES.

In 1921 there were 7,307 marriages, that is to say, 14,614 persons got married. This represents a marriage-rate of 15·9 per 1,000 of the population. The mean marriage-rate in Birmingham in the last ten years has been 17·7. It is difficult to understand how so many newly-married couples managed to find dwelling house accommodation during 1921.

### BIRTHS.

There were 22,134 babies born in 1921, as compared with 25,069 in 1920. The birth-rate for 1921 was 24·1 per 1,000.

The birth-rate for each year since 1871 is shown on chart No. 1. It will be noted that in the fifty years there charted the birth-rate has continued to decline, and is now approximating to one-half of what it was in 1871.

### BIRTH-RATES PER 1,000.

	Birmingham.				England and Wales.	
1901-1905	...	...	...	30·7	...	28·2
1906-1910	...	...	...	28·3	...	26·3
1911-1915	...	...	...	25·9	...	23·6
1916	...	...	...	23·1	...	20·9
1917	...	...	...	19·7	...	17·8
1918	...	...	...	19·4	...	17·7
1919	...	...	...	20·9	...	18·5
1920	...	...	...	27·6	...	25·5
1921	...	...	...	24·1	...	22·4

The birth-rate for each of the City wards is shown on page 10. It will there be noted that the rate varied from 15 per 1,000 in some of the suburban wards to considerably over 30 per 1,000 of the population in some of the central wards where the poorest in the community live.

### ILLEGITIMACY.

There were 823 illegitimate babies born in 1921, as compared with 894 in 1920, 858 in 1919, and 858 in 1918. The illegitimate rate for 1921 was 3·7 per cent. It will be possible when the Census figures are available to ascertain what proportion these births bear to the total number of unmarried women at child-bearing ages.

During 1921 the deaths of 111 illegitimate babies under one year were recorded, giving an infant mortality rate of 135, compared with a rate of 81 among the legitimate babies.

An attempt is being made to assist these unfortunate mothers by advice as to how to rear their babies. This work is, however, extraordinarily difficult, for in many instances they resent all help and elude supervision by moving from place to place.

The general public do not appreciate the damage done to both mother and child at the present time. An attempt was made to deal with the subject by legislation during the year by what became known as Mr. Neville Chamberlain's Bill. This was the only satisfactory proposal that has ever come before Parliament, but, unfortunately, for one reason or another it did not pass into law.

The basic principle of the Bill was that every illegitimate infant was to become a Ward of a Juvenile Court, with such precautions that while the infant's father and mother had to support it the infant was continually to be kept in the care of a guardian or guardians, either in addition to or in substitution for its mother, such guardian or guardians being appointed by the Court. The Bill also contained provisions for an increase in the maximum amount payable under an order, for the appointment of collecting officers, and for the legitimation of children where the father and mother subsequently marry.

BIRTH-RATE AND DEATH-RATE PER 1,000.





### NOTIFICATION OF BIRTHS ACT.

There were 21,484 births notified, out of a total of 22,134, that is to say, 97 per cent. of all the births were notified so early as to enable the Visitors to give advice when this was necessary and thus prevent in many cases the weaning of the infant when this was not required.

### STILLBIRTHS.

There were 804 stillbirths reported, against 911 in the previous year. In each of these cases inquiry was made as to the probable cause.

### DEATHS.

The deaths of 10,361 persons were registered during 1921, being 5,523 males and 4,838 females. In 1920 there were 11,409 deaths, in 1919 12,000, and in 1918 13,175.

### DEATH-RATE.

The death-rate for 1921 was 11·3 per 1,000. As will be seen from the following table this death-rate was the lowest ever registered in Birmingham. It was lower than that in England and Wales and in many of the other great towns.

#### DEATH-RATES PER 1,000 IN BIRMINGHAM, 1871 TO 1921.

		Birmingham.	England and Wales.
1871-1875	(Old City) ...	25·2	22·0
1876-1880	" ...	22·8	20·8
1881-1885	" ...	20·7	19·4
1886-1890	" ...	20·2	18·9
1891-1895	" ...	20·3	18·7
1896-1900	" ...	20·5	17·7
1901-1905 (Present Area)	... 16·5	...	16·0
1906-1910	" 15·0	...	14·7
1911-1915	" 14·6	...	14·3
1916	" 13·5	...	14·1
1917	" 12·6	...	14·4
1918	" 15·2	...	17·6
1919	" 13·0	...	13·8
1920	" 12·6	...	12·4
1921	" 11·3	...	12·1

#### COMPARATIVE DEATH-RATES IN EIGHT LARGEST TOWNS.

*(From Registrar-General's Figures.)*

Glasgow	...	...	...	...	...	...	15·1	per 1,000
Birmingham	...	...	...	...	...	...	11·2	"
Liverpool	...	...	...	...	...	...	14·3	"
Manchester	...	...	...	...	...	...	13·6	"
Sheffield	...	...	...	...	...	...	12·5	"
Leeds	...	...	...	...	...	...	13·5	"
Bristol	...	...	...	...	...	...	11·0	"
Edinburgh	...	...	...	...	...	...	14·4	"

The year 1921 was characterised by three outstanding features from a health point of view:—(1) Extreme depression in trade and consequent unemployment and poverty; (2) extremely bad housing conditions for a certain proportion of the people; and (3) a long warm dry summer, which in former years would have proved inimical to infant life. Notwithstanding the unfavourable conditions, the death-rate was the lowest ever recorded.

#### WARD BIRTH AND DEATH-RATES IN 1921.

The next table gives the figures of population, birth-rates and death-rates in wards:—

	Ward.		Approximate Population.	Birth-Rate.	Death-Rate.
Central Wards ...	St. Paul's	...	31,600	31.8	14.7
	St. Mary's	...	33,500	35.7	17.4
	Duddeston and Nechells	...	45,100	32.9	13.7
	St. Bartholomew's	...	39,800	32.3	14.2
	St. Martin's and Deritend	...	44,900	30.8	13.6
	Market Hall	...	18,600	28.0	14.6
	Ladywood	...	30,200	30.8	12.6
Middle Ring ...	Lozells	...	34,500	21.8	11.7
	Aston	...	42,300	28.7	12.1
	Washwood Heath	...	36,900	23.8	10.9
	Saltley	...	30,600	23.9	9.2
	Small Heath	...	31,000	20.5	10.5
	Sparkbrook	...	36,700	23.8	10.2
	Balsall Heath	...	39,900	22.5	11.4
	Edgbaston	...	35,100	15.2	10.7
	Rotton Park	...	41,600	24.8	11.2
	All Saints'	...	43,800	25.0	11.3
Outer Ring ...	Soho	...	28,000	20.1	10.1
	Sandwell	...	19,500	16.4	11.3
	Handsworth	...	27,700	17.7	10.1
	Erdington North	...	18,100	21.1	9.3
	Erdington South	...	19,200	20.0	10.2
	Yardley	...	17,100	20.5	8.0
	Acock's Green	...	29,900	21.0	8.3
	Sparkhill	...	24,900	19.3	9.1
	Moseley and King's Heath	...	29,100	14.8	10.5
	Selly Oak	...	29,000	20.8	7.6
	King's Norton	...	22,100	18.0	7.8
	Northfield	...	8,400	19.6	8.7
	Harborne	...	16,500	20.2	8.2

The highest ward death-rate was that in St. Mary's Ward of 17.4 per 1,000. The next highest were in St. Paul's and Market Mall Wards, viz., 14.7 and 14.6, respectively.

During the last ten years all the less healthy wards have shown a substantial improvement, so that the death-rates in them are gradually growing nearer to those of the more healthy areas. There is still, however, far too high a mortality in the central areas, due largely to the bad housing conditions existing there. The relative death-rate in each of the wards is shown in the appended table.

	Ward.		Mean Death-Rate, 1912-1916.	Death-Rate, 1917-1921.	Increase or Decrease.
Central Wards ...	St. Paul's	...	20.5	17.3	-3.2
	St. Mary's	...	24.5	19.6	-4.9
	Duddeston and Nechells	...	20.6	16.5	-4.1
	St. Bartholomew's	...	20.6	17.0	-3.6
	St. Martin's and Deritend	...	20.6	17.5	-3.1
	Market Hall	...	17.8	15.5	-2.3
	Ladywood	...	17.1	16.0	-1.1
Middle Ring ...	Lozells	...	13.4	13.0	-0.4
	Aston	...	15.2	13.3	-1.9
	Washwood Heath	...	12.7	11.3	-1.4
	Saltley	...	12.2	11.1	-1.1
	Small Heath	...	11.5	11.7	+0.2
	Sparkbrook	...	12.8	12.3	-0.5
	Balsall Heath	...	12.7	13.1	+0.4
	Edgbaston	...	11.8	12.0	+0.2
	Rotton Park	...	14.9	13.3	-1.6
	All Saints'	...	14.6	13.0	-1.6

Ward.				Mean Death-rate,	Death-rate	Increase or
				1912-1916.	1917-1921.	Decrease.
Outer Ring	Soho	...	...	12.6	11.3	-1.3
	Sandwell	...	...	10.0	10.4	+0.4
	Handsworth	...	...	10.4	10.6	+0.2
	Erdington North	...	...	11.0	9.8	-1.2
	Erdington South	...	...	9.3	10.1	+0.8
	Yardley	...	...	10.5	9.8	-0.7
	Acocks Green	...	...	11.4	10.3	-1.1
	Sparkhill	...	...	9.6	10.0	+0.4
	Moseley and King's Heath	...	...	9.7	10.8	+1.1
	Selly Oak	...	...	11.4	9.8	-1.6
	King's Norton	...	...	9.7	8.7	-1.0
	Northfield	...	...	10.2	8.8	-1.4
	Harborne	...	...	10.4	10.5	+0.1
	Whole City	...	...	14.3	12.9	-1.4

It will be noted that the reduction in the death-rate is far greater in the Central Wards than in the other areas, the average decrease being as follows :—

Central Wards	...	...	...	15.3	per cent.
Middle Wards	...	...	...	6.1	" "
Outer Wards	...	...	...	3.8	" "
Whole City	...	...	...	9.8	" "

#### CHIEF CAUSES OF DEATH.

Deaths from	1916.	1917.	1918.	1919.	1920.	Average,	Increase or			
						1916-1920.				
Measles	...	...	101	333	71	189	147	168	153	-15
Whooping Cough	...	...	378	131	277	60	182	206	93	-113
Diphtheria	...	...	116	112	160	126	201	143	120	-23
Influenza	...	...	146	98	2,172	1,062	421	780	134	-646
Pulmonary Tuberculosis	...	1,107	1,169	1,171	1,019	843	1,062	890		-172
Other Tuberculosis	...	217	236	214	169	158	199	145		-54
Cancer	...	897	912	883	935	1,014	928	1,020		+92
Cerebral Haemorrhage	...	467	485	455	473	464	469	474		+5
Convulsions (under 5)	...	165	139	107	96	111	124	85		-39
Organic Diseases of Heart	...	1,290	1,298	1,183	1,187	1,143	1,220	1,113		-107
Arterio Sclerosis	...	156	152	137	203	184	166	198		+32
Cerebral Embolism and Thrombosis	...	124	121	127	98	100	114	79		-35
Bronchitis	...	1,148	910	1,059	1,285	1,066	1,094	798		-296
Pneumonia	...	1,006	846	1,270	1,013	1,011	1,029	950		-79
Diarrhoea and Enteritis	...	489	366	445	260	309	374	442		+68
Nephritis and Bright's Disease	307	290	251	230	200	256	219			-37
Premature Birth	...	404	389	379	437	507	423	447		+24
Debility, etc.	...	263	258	182	208	207	224	214		-10
Old Age	...	629	611	451	628	576	579	577		-2
Suicide	...	46	55	60	98	98	71	93		+22
Accident	...	358	340	300	314	313	325	238		-87

The above table shows that there was a reduction in the number of deaths from most causes. There are, however, certain exceptions where increases have occurred, notably :—

Cancer	...	...	...	...	...	...	92
Diarrhoea and Enteritis	...	...	...	...	...	...	68
Suicide, deaths by	...	...	...	...	...	...	22

The increase in the deaths by suicide may possibly be due to an increased number of cases which it is difficult to allocate to suicide or accident, e.g. "found drowned." It will be noticed that the deaths from accident show a very marked decrease.

## RATES OF MORTALITY AT AGES, 1921.

The approximate population, together with the number of deaths and the death-rate at certain ages, are set out below :—

			Approximate Population.	Deaths.	Approximate Death-Rate per 1,000.
Under 1 year	...	...	20,800	1,838	88·4
1 and under 2	...	...	23,600	464	19·7
2	"	3	17,700	113	6·4
3	"	4	15,000	79	5·3
4	"	5	15,400	72	4·7
5	"	10	97,600	234	2·4
10	"	15	90,500	140	1·5
15	"	20	87,500	177	2·0
20	"	25	87,000	228	2·6
25	"	35	165,400	494	3·0
35	"	45	127,100	815	6·4
45	"	55	86,400	1,101	12·8
55	"	65	50,300	1,429	28·4
65 and upwards	...	...	35,200	3,177	90·3

## INFANT MORTALITY.

(See page 36.)

## INFECTIOUS DISEASES.

The deaths during 1921 from some of the chief infectious diseases were as follows :—

DISEASE.	Deaths in 1921.	Average 1911-20.	Above or below the average.
Enteric Fever	5	13	— 8
Smallpox	0	0	—
Measles	153	293	— 140
Scarlet Fever	40	83	— 43
Whooping Cough	93	209	— 116
Diphtheria	120	149	— 29
Diarrhoea and Enteritis	442	603	— 161
Pulmonary Tuberculosis	890	1,060	— 170
Other Forms of Tuberculosis	145	224	— 79
Influenza	134	448	— 314

The prevalence of the notifiable diseases is shown in the next table :—

DISEASE.	Cases in 1921.	Average 1911-20.	Above or below the average.
Enteric Fever	26	56	— 30
Smallpox	0	0	—
Scarlet Fever	3,320	3,964	— 644
Diphtheria	1,652	1,095	+ 557
Erysipelas	289	611	— 322
Puerperal Fever	105	115	— 10
Ophthalmia Neonatorum	127	Not notifiable in 1911.	
Pulmonary Tuberculosis	1,969	..	..
Other forms of Tuberculosis	278	..	..
Acute Primary or Influenzal Pneumonia	1,125	..	..
Cerebro-Spinal Fever	9	..	..
Acute Poliomyelitis	11	..	..
Polio Encephalitis	1	..	..
Encephalitis Lethargica	25	Only recently notifiable.	
Malaria	14	..	..
Dysentery	12	..	..
Trench Fever	1	..	..

In addition to the above the following cases were reported by the elementary school teachers :—

Whooping Cough	...	...	...	2,449
Chicken Pox	...	...	...	2,911
Mumps	...	...	...	8,470
Measles	...	...	...	4,618
German Measles	...	...	...	121

#### ENTERIC FEVER.

This disease, which formerly was exceedingly prevalent and fatal in Birmingham, is now reduced to a vanishing point. At least half the cases now reported may be traced to infection acquired away from Birmingham.

Year.	Cases reported.	Deaths.	Mortality rate per cent.	Death rate per 1,000.
1916	19	5	26	.01
1917	22	7	32	.01
1918	23	5	22	.01
1919	34	9	26	.01
1920	12	0	—	—
1921	26	5	19	.01

#### SMALLPOX.

Birmingham was extremely fortunate in 1921 in not being infected on any occasion with this disease, in view of the fact that many contacts were reported from ships arriving at English ports and coming direct to Birmingham. During the latter part of 1921 Smallpox occurred in several of our large industrial centres, but, fortunately, no infected person came to Birmingham.

In previous reports it has been noted that the accommodation for dealing with contacts is so defective as to be a source of danger if Smallpox occurred in the City.

It is much to be desired that the quarantine house designed to be erected on land purchased outside the Smallpox Hospital should be erected in order to make the City of Birmingham reasonably capable of dealing with an outbreak of Smallpox on good lines.

#### VACCINATION.

The following statement shows the vaccinal state of the infants born during the year ending June 30th, 1921 :—

Births returned	...	...	...	22,969
Conscientious objections	...	...	5,280, or 23·0%	of total.
Died unvaccinated	...	...	1,413	
Successfully vaccinated	...	...	12,928, or 60·0%	of survivors.
Insusceptible	...	...	66, or 0·3%	,
Postponed by medical certificate	...	...	480, or 2·2%	,
Removed to other districts	...	...	453, or 2·1%	,
Lost sight of	...	...	863, or 4·0%	,
Still under notice	...	...	1,486, or 6·9%	,

## MEASLES.

The death-rate from Measles was not a high one during 1921, 153 deaths being due to the disease, equal to a death-rate of .17 per 1,000 of the population.

The cases and deaths in the years 1901 to 1921 are set out in the accompanying table.

	CASES.		DEATHS.		Death Rate (Measles only).
	Measles.	German Measles.	Measles.	German Measles.	
1901	?	?	372	?	.49
1902	?	?	237	?	.31
1903	?	?	245	?	.32
1904	?	?	243	?	.31
1905	?	?	300	?	.38
1906	?	?	275	?	.34
1907	?	?	409	?	.51
1908	?	?	70	?	.08
1909	?	?	676	?	.82
1910	?	?	42	?	.05
1911	?	?	395	?	.47
1912	7,693*	1,088*	571	3	.67
1913	3,661*	85*	398	1	.46
1914	4,612*	61*	310	—	.35
1915	8,144*	680*	420	—	.47
1916	10,635	4,996	101	1	.11
1917	15,516	472	333	4	.37
1918	5,413	300	71	1	.08
1919	15,158	565	189	—	.20
1920	7,144*	477*	147	2	.16
1921	4,618*	121*	153	1	.17

\* Partial notification only through schools.

More attention than ever previously has been paid to obtaining nursing help in the case of young children suffering from Measles in houses where there is ignorance or lack of accommodation in the house. By an arrangement with the Birmingham Nursing Societies one of the trained nurses of these Societies is available in any such case free of charge to the patient. It is probably to the effort in this direction that the reduced mortality is due.

## SCARLET FEVER.

The epidemic of Scarlet Fever which commenced in the latter part of 1919, and reached its maximum in 1920, continued throughout the year 1921, but towards its close showed signs of passing away. During 1921, there were 3,420 notifications of Scarlet Fever received, but in 100 of these the diagnosis was revised at a later date, leaving 3,320 cases of actual Scarlet Fever reported. There were 40 deaths.

The mortality rate based on the 3,320 cases was 1.20, and the death-rate per 1,000 of the population was .04.

The comparative figures for the last six years were as follows :—

Year.	Cases reported.	Deaths.	Percentage Mortality based on cases notified.	Death rate per 1,000 of population.
1916	... ... 1,796	26	1.45	.03
1917	... ... 1,143	12	1.05	.01
1918	... ... 1,035	11	1.06	.01
1919	... ... 2,821	45	1.59	.05
1920	... ... 5,563	110	1.98	.12
1921	... ... 3,320	40	1.20	.04

The number of cases and deaths at various ages during 1921, are shown thus:—

Ages.	Cases notified.	Deaths registered.	Case Mortality per cent.
Under 1 year ... ...	23	2	9
Between 1 and 2 years ...	91	10	11
Between 2 and 3 years ...	142	5	4
Between 3 and 4 years ...	175	2	1
Between 4 and 5 years ...	219	3	1
Between 5 and 10 years ...	1,599	12	1
Between 10 and 15 years ...	710	4	1
Between 15 and 20 years ...	160	0	0
20 years and over ...	201	2	1
	—	—	—
	3,320	40	1
	—	—	—

Of the 3,320 cases 2,028 were removed to hospital and 1,392 were kept at home for the whole of their illness. The deaths from Scarlet Fever in the Hospital cases were 36, giving a case mortality of 1.7 per cent., while among the home-treated cases, the deaths numbered 4, giving a case mortality of .3 per cent. The corresponding figures for the previous year were 2.4 and 1.1, respectively.

#### SECONDARY CASES OF SCARLET FEVER.

Of the 2,028 patients removed to Hospital, 176 (or 8.6 per cent.) were followed by 258 further cases in the homes after their removal, while among the 1,392 cases not removed, 215 patients were followed by 261 secondary cases while being treated at home or before removal to Hospital.

In the secondary cases, after removal to Hospital, four mothers of the original patient were among the sufferers, while in the case of those nursed at home, 14 mothers became infected.

The total number of secondary cases is tabulated as follows:—

Treatment of original case	No. followed by secondary cases in the home.	Cases followed by:—					Total secondary Cases.
		1 Case.	2 Cases.	3 Cases.	4 Cases.	5 Cases.	
In Hospital (2,028) ...	176	117	42	12	4	1	258
At Home (1,392) ...	215	178	30	5	2	—	261

#### RETURN CASES.

(These are cases occurring in the home within 28 days of the return from hospital, or release from home isolation, of an infecting case.)

Of the 3,320 cases notified during the year, 110 (or 3.3 per cent.) were "return cases," following 92 infecting cases, of whom 81 were discharged from hospital and 11 from home isolation. The corresponding figure for the previous year was 5.5 per cent.

The total number of return cases is shown thus:—

	Infecting cases discharged.	Number of Infecting Cases each followed by			Total return cases.	
		1 Return case.	2 Return cases.	3 Return cases.		
Patients treated in hospital ...	81	66	12	3	99	
Patients treated at home ...	11	11	—	—	11	
	92	77	12	3	110	

The hospital return cases for the past six years have been as follows:—

Year.	Cases notified.	No. removed to Hospital.	Return cases.	Percentage of return cases to admissions.
1916 ... ...	1,796	1,329	60	4.5
1917 ... ...	1,143	901	48	5.3
1918 ... ...	1,035	797	55	6.9
1919 ... ...	2,821	2,158	75	3.5
1920 ... ...	5,563	3,612	264	7.3
1921 ... ...	3,320	2,028	99	4.9

## WHOOPING COUGH.

This disease caused 93 deaths. No less than 76 deaths were among babies under two years of age, *i.e.*, 82 per cent. of all the deaths. In previous years the fatality has uniformly been among the very young children, as will be seen by the following table:—

		1916.	1917.	1918.	1919.	1920.	1921.
Under 1 year	...	162	41	95	19	77	50
Between 1 and 2 years	...	130	47	98	21	59	26
Between 2 and 3 years	...	47	22	45	8	17	5
Between 3 and 4 years	...	21	8	19	7	12	6
Between 4 and 5 years	...	8	7	9	2	9	1
Over 5 years	...	10	6	11	3	8	5
		378	131	277	60	182	93

During 1921 an endeavour was made to get a good trained nurse from the District Nursing Societies to every case of Whooping Cough, when this was likely to be advantageous to the patient.

## DIPHTHERIA.

The incidence of this preventable disease was again very heavy. There were 1,652 new cases and 120 deaths from Diphtheria during 1921. The fatality rate per 100 cases was 7.

The comparable figures for previous years are set out in the accompanying table.

	Cases Notified	Case-Rate per 1,000 of Population.	Deaths.	Death-Rate per 1,000.	Case Mortality per cent.
1890	283*	0·69	123	·28	43
1891	205	0·48	59	·14	29
1892	533	1·10	115	·24	22
1893	387	0·79	98	·20	25
1894	406	0·83	108	·22	27
1895	741	1·50	219	·44	30
1896	1,194	2·35	312	·61	26
1897	713	1·41	171	·34	24
1898	689	1·36	139	·27	20
1899	720	1·40	149	·29	21
1900	542	1·05	86	·17	16
1901	789†	1·04†	125†	·16†	16†
1902	1,118	1·44	189	·24	17
1903	1,176	1·52	176	·23	15
1904	902	1·15	167	·21	19
1905	972	1·23	136	·17	14
1906	1,165	1·46	138	·17	12
1907	1,459	1·81	159	·20	11
1908	1,229	1·49	168	·20	14
1909	1,136	1·38	167	·20	15
1910	1,063	1·28	112	·13	11
1911	1,134	1·35	112	·13	10
1912	807	·95	101	·12	13
1913	991	1·13	169	·19	17
1914	1,623	1·84	260	·30	16
1915	1,072	1·21	135	·15	13
1916	951	1·07	116	·13	12
1917	770	0·86	112	·13	14
1918	881	1·02	160	·18	18
1919	970	1·05	126	·14	13
1920	1,755	1·93	201	·22	11
1921	1,652	1·80	120	·13	7

\* Notification became compulsory on January 20th, 1890.

† The figures from 1901 onwards relate to Greater Birmingham.

NOTE.—In recent years the cases have been revised as far as possible to exclude errors in diagnosis.

The present epidemic prevalence of Diphtheria commenced in 1919, and reached its height in the first quarter of 1921. Since then it has shown a marked tendency to decline.

#### DIPHTHERIA CASES IN FOUR-WEEKLY PERIODS.

1919.	1920.	1921.	1922.
47	135	194	128
43	148	185	118
43	135	192	104
53	110	129	62
47	119	116	109
57	100	96	63
63	125	121	—
56	86	87	—
64	94	85	—
130	152	96	—
115	188	121	—
110	184	86	—
115	179	144	—

This prolonged prevalence of the disease in epidemic form is characteristic of Diphtheria in large industrial centres. The disease appears to require a long time to wear out the susceptible material in the population. The disease attacks all classes of the community; indeed, it may be said that the middle and upper classes are more frequently attacked than the poorest.

#### DIPHTHERIA IN WARDS.

			Cases Notified.	Case-rate per 1,000.	Case Mortality per cent.
Central Wards	St. Paul's	...	96	3.04	13
	St. Mary's	...	57	1.70	18
	Duddeston and Nechells	...	63	1.40	6
	St. Bartholomew's	...	66	1.66	Average 9
	St. Martin's and Deritend	...	77	1.72	1.79 6
	Market Hall	...	25	1.34	8
Middle Ring ...	Ladywood	...	50	1.66	6
	Lozells...	...	65	1.89	6
	Aston	...	79	1.87	4
	Washwood Heath	...	40	1.08	10
	Saltley...	...	53	1.73	6
	Small Heath	...	28	0.90	Average 14
	Sparkbrook	...	48	1.31	1.57 9
	Balsall Heath...	...	77	1.93	13
	Edgbaston	...	39	1.11	3
	Rotton Park	...	90	2.16	6
Outer Ring ...	All Saints'	...	75	1.71	11
	Soho	...	66	2.36	2
	Sandwell	...	51	2.62	22
	Handsworth	...	44	1.59	—
	Erdington North	...	23	1.27	4
	Erdington South	...	38	1.98	8
	Yardley	...	20	1.17	—
	Acocks Green	...	49	1.64	Average 4
	Sparkhill	...	30	1.20	1.75 3
	Moseley and King's Heath	...	43	1.48	12

The age incidence and mortality are shown in the following table, which indicates very clearly that Diphtheria is enormously more fatal in the early years of life than later :—

Ages.	Cases Notified.	Deaths Registered.	Case Mortality per cent.
Under 1 year ...	19	2	11
Between 1 and 2 years	76	18	24
Between 2 and 3 years	81	6	7
Between 3 and 4 years	62	15	24
Between 4 and 5 years	101	13	13
Between 5 and 10 years	633	53	8
Between 10 and 15 years	331	11	3
Between 15 and 20 years	116	0	—
20 years and over ...	233	2	1
Total ...	1,652	120	7

Of the 1,652 new cases, 1,300 were treated at the City Hospital, Little Bromwich. The fatality rate of hospital-treated cases was 8·2 per cent., while that of cases treated at home or in other institutions was 8·0 per cent.

There is increasing evidence of the value of early recognition of the disease, so as to enable adequate treatment to be begun before the patient gets a fatal dose of Diphtheria toxin. This early recognition is by no means easy, for it entails in most cases the distinction by the child's parents between simple sore throat and true Diphtheria. Many cases during 1921 were first seen by a medical man many days after the onset, with a result that the chances of recovery of the patient were greatly reduced. An attempt is being made to find a means of immunising children against Diphtheria, but as yet the evidence available in England as to its efficacy does not permit of this being made a general system recommended for all children. So far, however, the new method appears to give hope of success. If it should prove to be valuable, as has been claimed for it, Diphtheria prevention will have advanced very greatly.

#### INFLUENZA.

There were 134 deaths during 1921 from this disease. The number of deaths in each quarter for the years 1918 to 1921 is shown in the table below :—

	1918.	1919.	1920.	1921.
First quarter ...	20	836	264	45
Second quarter ...	38	172	110	34
Third quarter ...	325	15	13	16
Fourth quarter ...	1,789	39	34	39
Totals ...	2,172	1,062	421	134

#### DIARRHOEA AND ENTERITIS.

There were 442 deaths from this group of ailments. The ages at death were as follows :—

Under one year ...	...	...	...	308
Between 1 and 2 years	...	...	...	59
Between 2 and 3 years	...	...	...	7
Between 3 and 4 years	...	...	...	2
Between 4 and 5 years	...	...	...	4
All over 5 years ...	...	...	...	62

The deaths under two years of age were distributed throughout the year as follows :—

July ...	...	...	24	July ...	...	...	40
February ...	...	...	14	August ...	...	...	97
March ...	...	...	19	September ...	...	...	67
April ...	...	...	10	October ...	...	...	40
May ...	...	...	9	November ...	...	...	22
June ...	...	...	11	December ...	...	...	14

The parts of the City most affected are generally indicated by the following figures :—

	Approximate population.	No. of deaths from Diarrhoea and Enteritis (under two years).	Death-rate per 1,000.
Central Wards ... ...	243,700	197	0.81
Middle Ring of Wards ...	372,400	122	0.33
Outer Ring of Wards ...	289,500	43	0.15

In past years whenever a long warm summer was experienced a large mortality occurred, as will be seen below :—

#### WARM SUMMERS AND DIARRHOEA DEATHS.

	Deaths from Diarrhoea and Enteritis.	Death-rate per 1,000.	*Days with mean temperature over 75° F.	*Maximum soil temperature (4 feet deep).	*Rainfall.
1901	1,320	1.74	17	56.0	5.91 in.
1904	1,422	1.82	16	55.8	5.75 „
1906	1,439	1.80	15	56.2	2.97 „
1911	1,390	1.65	40	57.2	3.27 „
1921	422	0.48	27	57.0	5.54 „

\*For third quarter.

The year 1921 was remarkable not only for the climatic conditions during the third quarter, when Diarrhoea and Enteritis usually becomes prevalent, but it also is remarkable for the conditions existing during the preceding quarters. It may be said that during the second quarter the conditions led up to what should have been one of the most severe epidemics of summer Diarrhoea.

During the second quarter—

The maximum temperature was ... ...	85°.2
The days with temperature over 70° ... ...	13
The maximum soil temperature was ... ...	53°.0
The amount of rain was ... ...	3.096 inches.

The 442 deaths represent a death-rate which is still quite unnecessarily high. In all the circumstances, however, this comparatively small death rate from Diarrhoea represents an achievement in combating one of the great causes of Infant Mortality which is satisfactory and most encouraging.

In this type of preventive work it may be said that money spent on educative work among mothers is bearing magnificent results. Not only did the mothers of Birmingham prevent the occurrence of epidemic summer Diarrhoea among their babies, because they knew better how to do so than formerly, but those who were attacked were fed and reared under much better conditions, and did not have so high a mortality.

It is indeed an extremely creditable result of the work of the Health Visitors and Child Welfare Workers in the first place, and, secondly, of the mothers of Birmingham who appreciate what they are told and carry out the instructions given, often under very difficult conditions as regards housing, food storage, and general cleanliness.

#### TUBERCULOSIS.

Very substantial results are indicated by the figures relating to the campaign against Tuberculosis :

- I. The new cases are much fewer ;
- II. The deaths are less numerous ;
- III. The incidence and mortality among children are markedly diminished, both as regards pulmonary and non-pulmonary Tuberculosis.

The new cases during 1921 were as follows :—

TUBERCULOSIS CASES NOTIFIED IN 1921.

Pulmonary Tuberculosis	...	...	...	...	...	...	1,969
Tubercular Meningitis	...	...	...	...	...	...	20
Tubercle of the Abdomen	...	...	...	...	...	...	34
Tubercle of the Spinal Column	...	...	...	...	...	...	40
Tubercle of the Joints	...	...	...	...	...	...	85
Disseminated Tuberculosis	...	...	...	...	...	...	11
Tubercle of the Glands and other parts	...	...	...	...	...	...	88

The decrease in the cases and deaths is shown by the figures in the next statement :—

TUBERCULOSIS (ALL FORMS).

	Cases notified.	Deaths.	Death rate per 1,000.
1913	...	5,196	1·53
1914	...	3,815	1·47
1915	...	3,518	1·55
1916	...	3,830	1·48
1917	...	3,543	1·56
1918	...	3,254	1·60
1919	...	3,116	1·28
1920	...	2,974	1·10
1921	...	2,247	1·13

TUBERCULOSIS (ALL FORMS).

	Total cases in 1914-16.	Total cases in 1919-21.	Decrease per cent.
Under 5 years	...	693	329
Between 5 and under 10	...	1,458	898
Between 10 and under 15	...	1,215	760
Between 15 and under 20	...	765	628
Between 20 and under 25	...	1,111	984
Between 25 and under 35	...	2,350	1,990
Between 35 and under 45	...	1,953	1,583
Between 45 and under 55	...	1,061	761
At 55 years and over	...	557	404
All ages	...	11,163	8,337

PULMONARY TUBERCULOSIS.

	Cases Notified.	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.
1901	...	1,120	1·47	1·26
1902	...	1,071	1·38	1·23
1903	...	992	1·28	1·21
1904	...	1,018	1·30	1·24
1905	...	994	1·26	1·14
1906	...	908	1·14	1·16
1907	...	898	1·11	1·15
1908	...	1,021	1·24	1·12
1909	...	1,008	1·22	1·09
1910	...	898	1·08	1·01
1911	...	958	1·14	1·08
1912	4,394	1,088	1·28	1·04
1913	4,229	1,041	1·19	1·01
1914	3,317	1,059	1·20	1·04
1915	3,027	1,141	1·28	1·16
1916	3,388	1,107	1·24	1·18
1917	3,074	1,169	1·30	1·25
1918	2,905	1,171	1·35	1·34
1919	2,704	1,019	1·10	1·00
1920	2,609	843	0·93	0·89
1921	1,969	890	0·97	—

The incidence of pulmonary Tuberculosis among males and females during 1921 is shown in the following table :—

				Males.	Females.
Under 10 years ...	...	...	...	73	74
Between 10 and under 15	...	...	...	57	59
Between 15 and under 20	...	...	...	71	84
Between 20 and under 25	...	...	...	119	123
Between 25 and under 35	...	...	...	260	254
Between 35 and under 45	...	...	...	234	185
Between 45 and under 55	...	...	...	165	66
55 and over ...	...	...	...	98	47
			Totals	1,077	892

From the above it will be noted that the incidence was fairly uniform among males and females under 35 years of age. At the later ages it was greatly in excess among males. An explanation of this age incidence is not easy to give.

#### PULMONARY TUBERCULOSIS IN OTHER TOWNS.

		Notified Cases.	Deaths.	Death rate per 1,000.	Notified Cases per 100 deaths.
Glasgow	...	2,045	1,083	1·05	189
Birmingham	...	1,969	890	0·97	221
Liverpool	...	2,142	1,048	1·28	205
Manchester	...	1,581	967	1·30	163
Sheffield	...	1,255	500	0·96	251
Leeds	...	867	519	1·12	167

#### DISTRIBUTION OF PULMONARY TUBERCULOSIS IN BIRMINGHAM.

		Case rate per 1,000.
Central Wards ...	St. Paul's ...	3·13
	St. Mary's ...	3·49
	Duddeston and Nechells ...	3·41
	St. Bartholomew's ...	2·51
	St. Martin's and Deritend ...	3·01
	Market Hall ...	2·80
Middle Ring ...	Ladywood ...	2·55
	Lozells ...	2·20
	Aston ...	2·65
	Washwood Heath ...	2·11
	Saltley ...	1·76
	Small Heath ...	1·58
	Sparkbrook ...	2·21
	Balsall Heath ...	2·00
	Edgbaston ...	1·28
	Rotton Park ...	2·33
Outer Ring ...	All Saints' ...	2·26
	Soho ...	1·54
	Sandwell ...	1·08
	Handsworth ...	2·09
	Erdington North ...	1·44
	Erdington South ...	1·46
	Yardley ...	1·81
	Acock's Green ...	1·47
	Sparkhill ...	2·05
	Moseley and King's Heath ...	1·62
	Selly Oak ...	1·41
	King's Norton ...	0·77
	Northfield ...	0·83
	Harborne ...	1·39
		Average 1921 1·46 ,, 1916-20 2·21

## OTHER FORMS OF TUBERCULOSIS.

	Cases Notified.	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.
1901	—	395	.52	.54
1902	—	285	.37	.51
1903	—	370	.48	.54
1904	—	351	.45	.54
1905	—	322	.41	.49
1906	—	295	.37	.50
1907	—	343	.43	.47
1908	—	287	.35	.47
1909	—	248	.30	.45
1910	—	270	.32	.42
1911	—	272	.32	.38
1912	—	204	.24	.33
1913	967	300	.34	.34
1914	498	234	.27	.32
1915	491	236	.27	.35
1916	442	217	.24	.35
1917	469	236	.26	.37
1918	349	214	.25	.35
1919	412	169	.18	.26
1920	365	158	.17	.24
1921	278	145	.16	—

## VARIETIES OF NON-PULMONARY TUBERCULOSIS.

	Cases notified in 1921.	Deaths not notified as cases.	Total Deaths.
Tubercular Meningitis	20	37	63
Abdominal Tuberculosis	34	15	28
Tuberculosis of Spine...	40	11	13
Tuberculosis of Joints	85	7	8
Tuberculosis of other organs, mostly glands	88	10	16
Disseminated Tuberculosis	11	10	17

The tables indicate that the mortality rate in Birmingham, which was 0.52 per 1,000 of the inhabitants in 1901 has fallen with considerable regularity to 0.16 per 1,000, and that the Birmingham mortality is less than that which occurs in England and Wales as a whole. The new cases, too, are much less numerous.

There can be but little doubt that the reduction in this type of Tuberculosis is due to the efforts which have been made to educate the people in the means of limiting the spread of infection and by improving the milk supply in one direction or another.

These non-pulmonary cases are mainly due to infection from pulmonary cases or infected milk. For their prevention it is necessary :—

- (1) To isolate infective pulmonary cases whenever possible and whenever necessary.
- (2) To secure that all pulmonary cases observe certain minimum precautions to prevent the spread of infection when they cough or spit.
- (3) By preventing or curing pulmonary cases the non-pulmonary cases will disappear.

## PREVENTION OF TUBERCULOSIS.

The anti-tuberculosis administration is carried out by a staff of 15 Tuberculosis Visitors, including a Superintendent. The efforts of this staff are directed :—(a) to induce the patient to obtain early treatment and to follow out the advice given; and (b) to improve some of the general social conditions which tend to spread infection. Every case notified is visited without delay and the general procedure as described in a former report is followed. The source of the disease is sought and an attempt made to discover any member of the family who may be suffering with symptoms suggestive of Tuberculosis. By this means a special contact register is formed. The names of 596 persons were put

on this register last year and 525 were persuaded to attend the Tuberculosis Dispensary for examination, and a considerable number were diagnosed as suffering from Tuberculosis. In a good many cases the shortage of working class dwellings is one of the factors in the maintenance and spread of Tuberculosis. Conditions obtain where an infective Tuberculosis patient is occupying a bedroom with other members of the family—a state of things directly opposed to the requirements of health.

In such cases where there is ability to pay adequate rent for suitable accommodation every effort is made to assist the patient to find such accommodation. Where these efforts are unsuccessful or where there is crowding together due to lack of beds and bedding, a sleeping shelter is erected in the garden or a bed and bedding is supplied to enable the patient to sleep alone and, if possible, in a separate room. Those who can afford it are required to purchase the articles supplied, at cost price, on the hire-purchase system.

There are 99 shelters and 518 sets of bedding now in use. Of the latter, 21 have been paid for outright, and 162 are in process of being purchased, while 335 are issued on loan.

In 317 cases a special enquiry was made into the whole circumstances and income of the family, with a view to the provision of extra nourishment. Orders are given for a specified period, usually six weeks. At the end of that period the cases are carefully reviewed.

The Public Health work during 1921 is summarised in the following table.

New cases received	...	...	...	...	2,270
Primary visits paid civilians	...	...	...	...	1,881
"    "    ex-soldiers	...	...	...	...	459
Periodic re-visits paid civilians	...	...	...	...	23,891
"    "    ex-soldiers	...	...	...	...	7,864
Special re-visits	...	...	...	...	11,921
Useless calls	...	...	...	...	3,761
			Total calls	...	52,047
Patients recommended for a shelter	...	...	...	...	44
"    "    extra nourishment	...	...	...	...	428
"    "    additional bed	...	...	...	...	140
<b>Nuisances Reported to Sanitary Inspectors—</b>					
Houses to be cleaned	...	...	...	...	185
Houses damp	...	...	...	...	145
Houses in bad repair	...	...	...	...	368
Houses badly ventilated	...	...	...	...	29
Drains defective	...	...	...	...	38
Closets defective	...	...	...	...	44
Other nuisances	...	...	...	...	100
Houses disinfected	...	...	...	...	2,545

#### TREATMENT OF TUBERCULOSIS.

The next statement shows the number of persons examined at Broad Street Centre :—

#### TUBERCULOSIS PATIENTS EXAMINED AT BROAD STREET CENTRE.

	New Patients.	Contacts or Suspects,	Old Patients Re-examined.
Completed Examinations	...	1,855	1,003
No. recommended for Sanatorium	719	284	524
"    "    Hospital	167	36	169
"    "    Dispensary	90	45	1,564
"    "    Domiciliary	131	38	1,828
No treatment required at present	748	600	2,148
Incomplete Examinations	...	794	851
Total Examinations	...	2,649	1,854
			6,486

There are 670 beds available for "Sanatorium" and "Hospital" patients, and during the year there were 2,262 patients admitted for observation, instruction, treatment, or isolation.

The number of patients sent to the different Sanatoria is given in the statement below :—

PATIENTS TREATED AT SANATORIA.

	Yardley Road.	Salterley Grange.	Romsley Hill.	West Heath.	Witton.	Total.
In sanatorium at beginning of year	253	61	106	67	83	570
Admitted ... ... ... ...	905	284	510	354	209	2,262
Discharged ... ... ... ...	844	295	521	244	162	2,066
Died ... ... ... ...	94	0	4	75	66	239
Remaining at end of year ... ...	220	50	91	102	64	527

The number of patients who attended at Broad Street Centre for out-patient treatment (in most cases after a previous stay at a sanatorium) was as follows :—

TREATMENT AT BROAD STREET DISPENSARY.

New Patients attending for treatment	...	...	815
Total attendances of old and new patients	...	...	31,204

Dental treatment was given to 204 patients.

Reports by the officers responsible for the examination and treatment of cases of Tuberculosis are appended.

A great many patients were passed through either the Municipal Anti-Tuberculosis Centre or the Tuberculosis Department of the General Dispensary. At the Municipal Centre there were 10,989 attendees of old and new patients for examination and 31,204 attendances for treatment, while at the General Dispensary Tuberculosis Department there were 392 attendees of new patients and a considerable number of old patients for examination and 12,371 attendances for treatment.

The results of the treatment given are set out in the following reports at some length. Attention is particularly directed to the results of recent inquiry into the condition of patients who were treated in the years 1913 to 1917, *i.e.*, whose treatment was completed from 4 to 8 years ago. Briefly, the results are as follows :—

RESULTS OF AN INQUIRY INTO PRESENT CONDITION OF PATIENTS TREATED.

Year.	No. of patients treated.	Now working regularly.	Working irregu- larly.	Totally incapa- citated.	Known to have left city.	Lost all trace.	Known to have died.
1913	1,410	34·7%	9·3%	2·7%	3·5%	30·8%	18·7%
1914	1,468	41·9%	11·8%	2·4%	5·5%	17·0%	21·2%
1915	1,530	53·6%	10·9%	2·8%	4·3%	11·0%	17·8%
1916	1,203	58·1%	12·3%	1·9%	5·9%	8·1%	13·4%
1917	1,024	60·5%	14·2%	2·7%	6·4%	5·1%	10·5%

THE ANTI-TUBERCULOSIS CENTRE.

(REPORT BY DR. G. B. DIXON, CHIEF TUBERCULOSIS OFFICER.)

All the cases of pulmonary tuberculosis notified from the Public Health Department who desire treatment are examined at the Anti-Tuberculosis Centre, Broad Street, and a suitable form of treatment is decided upon; at the same time useful advice and instructions are given on the subjects of dietary, ventilation, sputum collection, disinfection, and occupation, etc.

The Anti-Tuberculosis Centre is open daily, including the evenings on five days weekly, and on Saturdays for half-a-day; new patients are examined and old patients are re-examined by appointment during the mornings and the afternoons; treatment is given during the evenings to those who are working, and in the afternoon to children and those women and men who are not working.

On their return from the Sanatoria patients are again seen at the Centre, where many continue to attend as out-patients; some, however, return to their private doctors. The patients attending the Centre are examined from time to time, and those who have been patients in the past are re-examined after varying intervals.

From this description it is evident that the Anti-Tuberculosis Centre fulfils the triple rôle of—(1) a sorting house; (2) an information bureau; and (3) a centre for treatment, diagnosis, supervision, and after-care, etc.

#### ATTENDANCES AND EXAMINATIONS OF PATIENTS DURING THE YEAR.

During the year 1921 the total number of attendances for diagnosis and treatment at the Centre was 42,193. The total attendances for treatment alone were 31,204, and the total number of examinations was 10,989. The total attendances for treatment and the total examinations show an increase on the last report.

#### NUMBER OF PATIENTS EXAMINED DURING THE YEAR.

During the year 1,712 newly notified cases were examined, 1,986 return (*i.e.*, those who have been notified in previous years) patients were examined, and 1,676 "suspect" or unnotified cases were also examined. In connection with these cases 529 examinations were made at the patients' own homes, and 409 of these are not included.

During the year there were examined 1,978 patients who had completed a course of treatment. At the end of the last quarter of the year there were 222 new cases who had been examined at least once, and for whom at that time no recommendation had been made, so that 7,881 patients were examined during the year, and they received 10,989 examinations.

During the year 1921 there were 39 patients who were recommended for sanatorium treatment from the Special department, Great Charles Street.

#### CONDITION OF TEETH AND GUMS.

Number of Teeth with infected pulp chambers.			Masticatory power in Molars and Bicuspedas.			State of Gums.		
None	1 to 4	More than 4	6 or more	Less than 6	None	Healthy	Gingivitis	Pyorrhœa
935	3,428	650	3,174	1,181	669	2,885	1,641	499

There were 313 patients with dentures.

#### DENTAL TREATMENT.

Mr. Payton, the dental surgeon, has provided me with the following short account of the work in his department during the past year :—

"The following dental operations have been carried out at the Anti-Tuberculosis Centre :—998 defective teeth have been removed, and anaesthetics administered in 207 cases. One hundred and forty-five teeth have been filled, and there were 78 sealings. Artificial dentures were provided for 34 patients.

The above shows a large proportion of extractions as in previous years, indicating that patients neglect their teeth until the importance of treatment is pointed out to them."

#### FAMILY HISTORY.

Enquiry was made as to the family history of the 5,374 patients referred to us during the year. In 2,802 cases there was no history of tuberculosis in the family. In 1,627 there was a history of a near relative or intimate friend having the disease, *e.g.*, father, 302; mother, 214; brother, 271, etc. In 945 instances two or more relatives had had the complaint.

#### TREATMENT RECOMMENDED.

Of the 5,374 patients referred to us during the year 1,435 were children of 14 years and under, and of these 974 required no treatment, 181 were recommended direct for sanatorium treatment, 147 were referred for observation, 19 were recommended for home treatment, 90 were placed on out-patient or dispensary treatment, 11 cases required hospital treatment, and 13 were recommended for radium treatment.

Of the 3,939 adult patients no form of treatment was required for 1,691, sanatorium treatment was recommended for 828, a period of observation was recommended for 216 cases, domiciliary treatment was advised for 722, dispensary or out-patient treatment for 168, and hospital treatment for 301. Other forms of treatment were recommended in 13 instances.

#### STAGE OF DISEASE AT FIRST EXAMINATION.

In the following tables the patients are divided into children of 14 and under, and adults, and the number under the different stages of the disease will be seen :

	Children.	Adults.
Stage I.	232	725
Stage II.	163	1,284
Stage III.	84	738
No active signs of Tuberculosis	902	1,175
Tuberculosis of glands, abdomen, joints, etc.	54	17
	1,435	3,939

## WORKING CAPACITY ON FIRST EXAMINATION.

							Adults.	Children.
Unimpaired	...	...	...	...	...	...	1,507	1,045
Impaired	...	...	...	...	...	...	1,797	324
Totally incapacitated	...	...	...	...	...	...	635	66
							3,939	1,435

## SPUTUM RESULTS.

Amongst the children there were 25, or 1·7 per cent., presenting tubercle bacilli in their sputum, and amongst the adults there were 542, or 13·7 per cent., whose sputum was positive for tubercle.

				Adults.	Children.
Tubercle Bacilli present	...	...	...	542	25
Tubercle Bacilli absent	...	...	...	2,342	329
No sputum	...	...	...	1,055	1,081
				3,939	1,435

In the Laboratory during the year there were 8,471 specimens of sputa examined. There were also 82 other specimens examined.

Of the 8,471 specimens of sputa 1,761 which were negative after staining alone were examined by the concentration method of Davis, and the results are given below:—

## RESULT OF EXAMINATION AFTER CONCENTRATION.

Tubercle Bacilli demonstrated after 1st concentration	...	52
" " .. .. 2nd .. "	...	13
" " .. .. 3rd .. "	...	2
" " .. .. 4th and 5th ..	...	0

## COMPLETED CASES.

## DETAILS OF CASES COMPLETING TREATMENT AT CENTRE DURING THE YEAR.

During the year 1,978 patients completed a course of treatment at the Centre. Of these 1,755 were adults and 223 were children. Of the adults 973 were newly notified cases, 500 were return cases, and 282 were "suspects" and "contact" cases. Of the 223 children 89 were new cases, 75 were return cases, and 59 were "suspect" or "contact" cases.

Amongst the children 15, in addition to pulmonary tuberculosis, suffered from glandular tuberculosis, and three from abdominal tuberculosis.

## STAGE OF DISEASE AND CONDITION OF SPUTUM.

In the following tables the stage of the disease is shown for children and adults, and the condition of the sputum at the commencement and termination of treatment is also given:—

	No sputum persisting.	No sputum becoming T.B. -	No sputum becoming T.B. +	T.B. - persisting	T.B. - becoming T.B. +	T.B. - becoming no sputum	T.B. + persisting	T.B. + becoming T.B. -	T.B. + becoming no sputum	Total.
ADULTS.										
Stage I. ...	70	3	—	206	2	59	13	63	19	435
Stage II. ...	71	21	1	371	18	71	92	180	29	854
Stage III....	22	2	3	121	18	14	175	92	12	459
Glands, etc.	4	—	1	1	—	1	—	—	—	7
	167	26	5	699	38	145	280	335	60	1755
CHILDREN.										
Stage I. ...	66	5	—	11	1	20	3	3	2	111
Stage II. ...	43	4	—	11	—	15	2	—	2	77
Stage III....	10	—	—	4	—	1	3	—	2	20
Glands, etc.	13	1	—	—	—	1	—	—	—	15
	132	10	—	26	1	37	8	3	6	223

Bacillary loss—Adults, 52·14% Children, 47·06%

## WORKING CAPACITY.

In the following tables the change between the working capacity at the commencement and termination of treatment of the patients differentiated into stages of disease is shown for both adults and children.

	ADULTS.					
	Stage I.	Stage II.	Stage III.	Glands.	Total.	
Unimpaired working capacity becoming impaired	7	5	1	1	14	
Unimpaired becoming totally incapacitated	...	—	—	—	—	
Unimpaired capacity persisting	... ...	64	14	1	3	82
Impaired becoming unimpaired	... ...	185	261	29	—	475
Impaired becoming totally incapacitated	... ...	8	48	15	—	71
Impaired capacity persisting	... ...	128	300	104	1	533
Totally incapacitated becoming impaired	... ...	26	125	137	—	288
Totally incapacitated becoming unimpaired	... ...	11	39	7	—	57
Totally incapacitated persisting	... ...	6	62	165	2	235
						1,755
	CHILDREN.					
	Stage I.	Stage II.	Stage III.	Glands.	Total.	
Unimpaired working capacity becoming impaired	1	—	—	2	3	
Unimpaired capacity persisting	... ...	13	—	7	20	
Impaired becoming unimpaired	... ...	73	46	8	3	130
Impaired persisting	... ...	11	13	3	3	30
Impaired becoming totally incapacitated	... ...	—	2	1	—	3
Totally incapacitated becoming impaired	... ...	2	2	5	—	9
Totally incapacitated becoming unimpaired	... ...	9	14	—	—	23
Totally incapacitated persisting	... ...	2	—	3	—	5
						223

## CONDITION OF DISEASE ON COMPLETION OF TREATMENT.

In the following table the patients are differentiated according to the stage of the disease, and as to whether they are adults or children, and the numbers are shown in which the disease has become arrested, improved, stationary, or progressive :—

	ADULTS.		
	Disease inactive and greatly improved.	Disease improved.	Disease stationary or progressive.
Stage I. ...	... 314	90	31
Stage II. ...	... 430	253	171
Stage III. ...	... 69	136	254
Glands ...	... 5	1	1
	— 818	— 480	— 457
	CHILDREN.		
	Disease inactive and greatly improved.	Disease improved.	Disease stationary or progressive.
Stage I. ...	... 100	9	2
Stage II. ...	... 59	13	5
Stage III. ...	... 6	8	6
Glands ...	... 14	1	—
	— 179	— 31	— 13

## REPORT ON YARDLEY ROAD SANATORIUM.

(BY DR. G. B. DIXON, MEDICAL SUPERINTENDENT.)

In all the Municipal and the Romsley Hill Sanatoria the treatment given to patients is on similar lines. It comprises hygienic and dietetic treatment, graduated rest, exercise and work, the employment of appropriate drugs when indicated, specific treatment by means of the various tuberculin, etc., radium treatment, the induction of artificial pneumo-thorax in suitable cases and heliotherapy, or treatment by the direct action of the sun's rays.

## NUMBERS TREATED AND DURATION OF STAY.

During the past year 925 patients were admitted to the Sanatorium, 849 were discharged, and 92 male patients, 1 female patient and 1 male child died. Of the total number of patients discharged, 324 were males, 205 were females, and 320 were children. The average duration of residential treatment in this Sanatorium during the year was 99·5 days, and included in the calculation are 267 who were admitted for a period of observation only, and who did not remain for more than three or four weeks, so that actually the average duration of stay of those receiving treatment was more than 99·5 days. Observation patients are those who after careful and repeated examinations at the Centre are found to be indefinite, either as to the presence or absence of tuberculosis, or as to its activity or otherwise when present; they are usually admitted for a period varying from two to four weeks.

Of the male patients who died during the year 63 were admitted without examination by the Tuberculosis Medical Staff.

## CLASSIFICATION OF PATIENTS.

The classification on admission to the Sanatorium of the 849 patients discharged is set out below:—

Males for observation	...	...	...	...	...	...	...	97
Females for observation	...	...	...	...	...	...	...	81
Children for observation	...	...	...	...	...	...	...	126
Children for treatment	...	...	...	...	...	...	...	195
Women for treatment	...	...	...	...	...	...	...	125
Male patients for treatment	...	...	...	...	...	...	...	319
								943

Only 19 of the 81 female patients admitted for the purpose of observation and 1 of the 97 males admitted for observation were subsequently treated at Yardley Road; the others were transferred to Salterley Grange and Romsley Hill Sanatoria when treatment was required. The 34 children in whom a positive diagnosis was made were all treated at Yardley Road.

## OBSERVATION PATIENTS.

In the following table are given the results obtained after "observation" in the Sanatorium of the suspect cases.

		Positive Diagnosis.	Negative Diagnosis.	Diagnosis Incomplete.	Total.
Males	...	...	25=25·8%	63	9
Females	...	...	33=40·7%	43	5
Children	...	...	34=26·9%	92	
			92=30·3%	198	14
					304

## DISCHARGED PATIENTS, TABULATED ACCORDING TO STAGE, SEX AND AGE.

After deducting the number of patients who were transferred to other Sanatoria and those who did not remain for treatment for other reasons, the number of male patients appearing in the subsequent tables is 210, females 141, and children 209. In the table below they are arranged according to their ages, sex and stage of disease upon admission.

Age.	Stadium I.		Stadium II.		Stadium III.		Other than Pulmonary Tuberculosis.		Total.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		
Under 10 years	...	13	16	14	15	7	15	2	2	84
10 to 15	..	19	15	21	42	13	17	3	3	133
16 to 20	..	1	7	3	11	3	9	1	2	37
21 to 25	..	4	3	3	11	5	8	—	—	34
26 to 30	..	5	4	4	19	9	5	—	1	47
31 to 35	..	3	6	7	8	21	2	1	—	48
36 to 40	..	4	4	13	10	16	4	—	—	51
41 to 45	..	1	4	10	8	21	4	—	—	48
46 to 50	..	—	—	9	3	17	1	—	—	30
51 to 55	..	—	—	2	1	17	1	—	—	21
56 to 60	..	—	—	3	1	7	—	—	—	11
61 to 65	..	—	—	4	—	6	—	—	—	10
66 to 70	..	—	—	—	—	5	—	—	—	5
71 to 75	..	—	—	—	—	1	—	—	—	1

## EMPLOYMENT OF PATIENTS.

The provision of suitable forms of occupation and employment for Sanatorium patients is essential if the best results are to be obtained from Sanatorium treatment. No patient can be expected to do well if he had nothing to occupy his mind or his hands. The employment of patients is only advisable under strict medical supervision.

The provision of an instructor in basket-making, wood-carving, and cane chair repairs, in addition to the other forms of occupational treatment, has proved a success. As a result, many patients have acquired a useful hobby, others have learnt sufficient to enable them to be self-supporting on leaving the Sanatorium.

## WORKING CAPACITY.

In the succeeding tables the working capacity of the patients is set out according to the stage of the disease in which the patient is classified.

WORKING CAPACITY (MALES).				Total No.
	Unimpaired.	Impaired.	Totally Incapacitated.	
<b>Stadium I.</b>				
Before treatment	... 1=5.55%	13=72.22%	4=22.22%	
After treatment	... 8=44.44%	8=44.44%	2=11.11%	{ 18
<b>Stadium II.</b>				
Before treatment	... 1=1.69%	30=50.85%	28=47.76%	
After treatment	... 7=11.86%	41=69.49%	11=18.64%	{ 59
<b>Stadium III.</b>				
Before treatment	... 2=1.54%	36=27.69%	92=70.77%	
After treatment	... 6=4.61%	85=65.38%	39=30%	{ 130
<b>Other than Pulmonary.</b>				
Before treatment	... —	2=66.66%	1=33.33%	
After treatment	... —	3=100%	—	{ 3
WORKING CAPACITY (FEMALES).				
	Unimpaired.	Impaired.	Totally Incapacitated.	Total No.
<b>Stadium I.</b>				
Before treatment	... 1=3.45%	23=79.31%	5=17.24%	
After treatment	... 19=65.52%	9=31.03%	1=3.45%	{ 29
<b>Stadium II.</b>				
Before treatment	... 1=1.33%	56=74.66%	18=24%	
After treatment	... 40=53.33%	32=42.66%	3=4%	{ 75
<b>Stadium III.</b>				
Before treatment	... —	17=48.57%	18=51.43%	
After treatment	... 14=40%	15=42.85%	6=17.14%	{ 35
<b>Other than Pulmonary.</b>				
Before treatment	... —	2=100%	—	
After treatment	... 2=100%	—	—	{ 2
WORKING CAPACITY (CHILDREN).				
	Unimpaired.	Impaired.	Totally Incapacitated.	Total No.
<b>Stadium I.</b>				
Before treatment	... 4=6.45%	49=79.03%	9=14.51%	
After treatment	... 51=82.26%	9=14.51%	2=3.22%	{ 62
<b>Stadium II.</b>				
Before treatment	... 3=3.37%	71=79.77%	15=16.85%	
After treatment	... 69=77.52%	18=20.22%	2=2.25%	{ 89
<b>Stadium III.</b>				
Before treatment	... 1=2.08%	24=50%	23=47.92%	
After treatment	... 24=50%	18=37.5%	6=12.5%	{ 48
<b>Other than Pulmonary.</b>				
Before treatment	... 2=20%	6=60%	2=20%	
After treatment	... 10=100%	—	—	{ 10

It should be understood concerning this and other tables relating to the working capacity, weight, and sputum results of patients just leaving the Sanatoria that the figures refer to a period immediately following treatment under ideal conditions, and are therefore recorded at a most advantageous time.

#### GAIN OR LOSS IN WEIGHT.

##### *Adults.*

	Total No.	Lost Weight.	Stationary.	Gain of 1-5.	Gain of 6-10.	Gain of 11-15.	Gain of 16-20.	Gain of Over 20lbs.
Stage I. ... ... ...	47	1	—	10	20	8	3	5
Stage II. ... ... ...	134	16	4	32	46	18	10	8
Stage III. ... ... ...	165	18	20	46	48	18	11	4
Tuberculosis other than pulmonary ... ... ...	5	—	—	3	—	1	—	1

##### *Children.*

	Total No.	Lost Weight.	Stationary.	Gain of 1-5.	Gain of 6-10.	Gain of 11-15.	Gain of 16-20.	Gain of Over 20lbs.
Stage I. ... ... ...	62	—	1	28	25	7	—	1
Stage II. ... ... ...	89	1	1	31	34	15	5	2
Stage III. ... ... ...	48	—	1	22	21	2	2	—
Tuberculosis other than pulmonary ... ... ...	10	—	—	3	4	2	1	—

#### SPUTUM.

In the following tables the sputum results at the commencement and termination of Sanatorium treatment are indicated:—

##### *Male Adults.*

		T.B. +	T.B. -	No Sputum.	Total No.
Stage I.					
Before treatment	...	... 5=27.77%	13=72.22%	—	18
After treatment	...	... 5=27.77%	13=72.22%	—	
Stage II.					
Before treatment	...	... 33=55.93%	20=33.89%	6=10.17%	59
After treatment	...	... 24=40.67%	28=47.45%	7=11.86%	
Bacillary loss	...	... 27.27%			
Stage III.					
Before treatment	...	... 97=74.61%	32=24.61%	1=.77%	130
After treatment	...	... 95=73.07%	31=23.84%	4=3.07%	
Bacillary loss	...	... 2.06%			
Tuberculosis other than pulmonary		—	3=100%	—	3

##### *Female Adults.*

		T.B. +	T.B. -	No Sputum.	Total No.
Stage I.					
Before treatment	...	... 3=10.34%	12=41.37%	14=48.28%	29
After treatment	...	... 2=6.89%	11=37.93%	16=55.17%	
Bacillary loss	...	... 33.3%			
Stage II.					
Before treatment	...	... 13=17.33%	31=41.33%	31=41.33%	75
After treatment	...	... 11=14.66%	32=42.66%	32=42.66%	
Bacillary loss	...	... 15.38%			
Stage III.					
Before treatment	...	... 17=48.57%	14=40%	4=11.43%	35
After treatment	...	... 13=37.14%	18=51.43%	4=11.43%	
Bacillary loss	...	... 23.53%			
Tuberculosis other than pulmonary		—	—	2=100%	2

*Children.*

	T.B. +	T.B. -	No Sputum.	Total No.
<b>Stage I.</b>				
Before treatment	... 1 = 1·61%	15 = 24·19%	46 = 74·19%	
After treatment	... —	15 = 24·19%	47 = 75·8%	{ 62
Bacillary loss	... 100%			
<b>Stage II.</b>				
Before treatment	... 4 = 4·49%	24 = 26·97%	61 = 68·53%	
After treatment	... 3 = 3·37%	22 = 24·71%	64 = 71·91%	{ 89
Bacillary loss	... 25%			
<b>Stage III.</b>				
Before treatment	... 10 = 20·83%	14 = 29·17%	24 = 50%	
After treatment	... 5 = 10·42%	15 = 31·25%	28 = 58·33%	{ 48
Bacillary loss	... 50%			
Tuberculosis other than pulmonary :				
Before treatment	... —	—	10 = 100%	
After treatment	... —	—	10 = 100%	{ 10

## SUBSEQUENT TREATMENT RECOMMENDED AFTER SANATORIUM.

*Female Adults.*

Total.	Recommended for Dispensary Treatment.	Recommended for Domiciliary Treatment.	Recommended for Hospital Treatment.	Returning to their own Doctor.	Supervisory exam.
141	97	31	2	10	1
209	178	—	2	14	15

## LABORATORY REPORT.

During the year 3,203 specimens of sputum were examined in the laboratory at the Sanatorium; and, in addition there were 1,824 examinations of urine and other specimens.

The sputum of all patients who expectorate is primarily examined after staining alone, and if a negative result is obtained, it is then treated by a concentration process, and is examined weekly by this method when sputum is present, until tubercle bacilli are demonstrated, or until treatment terminates.

In the succeeding table are shown the results obtained after using the concentration method described by Ellerman and Erlandsen:

No. of sputa in which ordinary staining methods failed to show tubercle bacilli	... ... ... ... ...	2,881
No. of above in which subsequent examination by Ellerman and Erlandsen method showed T.B. to be present	... ... ... ... ...	879 = 30·5%
Of these T.B. were found :—		
After first examination in	... ... ... ... ...	434
After second examination in	... ... ... ... ...	227
After third examination in	... ... ... ... ...	154
After fourth examination in	... ... ... ... ...	42
After fifth examination in	... ... ... ... ...	22
		879

## SCHOOL WORK.

During the past year 230 boys and 184 girls have passed through the school; this shows a slight increase on the numbers for last year.

The children who remain with us for a sufficiently long period are usually able to return home better both physically and mentally.

Owing to the severity of the winter, the hand-work was not able to progress quite so much, as it was impossible for the children to sit and hold small implements during the very cold weather.

At the present time we have 46 boys and 26 girls attending school. The curriculum is arranged as far as possible to keep the children in touch with the course of instruction which they would normally be

receiving at an elementary school. The children are graded in every subject according to their ability and not age; this works far more satisfactorily, and acts as a far greater stimulus to the older and more backward child.

The children are all very keen on helping to adorn their new school, and some of the older boys and girls have done some very interesting work from literature and history in painting and paper cutting.

## REPORT ON SALTERLEY GRANGE SANATORIUM.

(BY DR. D. J. PEEBLES, MEDICAL SUPERINTENDENT.)

I beg to submit my report on the working of Salterley Grange Sanatorium during the year ending December 31st, 1921.

## ADMISSIONS.

In the twelve months under consideration 282 patients were admitted, 186 of these being males and 96 females. These figures show a decrease of 42 from last year, when there were 241 males and 83 females admitted. This decrease was brought about chiefly by two factors:—

- ## 1. Prolonged repairs to the Boiler.

2. Excessive drought during the summer—this caused our water supply (derived from three deep wells) to diminish considerably, and gave rise to some anxiety. It was therefore decided to limit admission for a time.

The grouping of the admissions is as follows:—

## Turban-Gerhardt Classification.

Stadium.		Males.	Females.	Total.	Percentage.
I.	...	86	53	139	50
II.	...	90	37	127	45
III.	...	10	6	16	5

These figures show a decrease in the percentage of Stadium I. cases, with a corresponding increase in that of the Stadium II. cases, the percentage of Stadium III. cases remaining the same.

## DISCHARGES.

During the year 295 patients were discharged, 194 males and 101 females. There were no deaths.

Arranged according to their stage on discharge (Turban-Gerhardt).

Stadium.		Males.	Females.	Total.
I.	...	89	48	137
II.	...	95	45	140
III.	...	10	8	18

The average duration of stay was 80 days for males and 116 days for females—average "all cases" 93 days. This average "all cases" is the same as for last year.

On considering these figures it is interesting to note the difference in the "stay" of the two sexes, the females' average being 50 per cent. (approximately) more than the males'. This is probably because the male is generally the chief breadwinner in the house.

All cases on their discharge are recommended further treatment and after-care at the Dispensary (95 per cent.) or under their own doctor.

### WEIGHT.

The average gain in weight this year is increased for the males and decreased for the females, the figures being males  $1\frac{1}{2}$  lbs. more and the females 1 lb. less. It was very noticeable last year during the early summer—the usual period for least gain—the weekly gain was slight, and not a few lost weight. This loss was rarely accompanied by any complaint.

The figures are as follows :—

Males.				Females.			
Stadium.	Gain.	Stat.	Loss.	Stadium.	Gain.	Stat.	Loss.
I.	84	3	2	I.	43	4	1
II.	90	2	3	II.	42	1	2
III.	9	1	0	III.	4	3	1
Totals	183	6	5		89	8	4
Percentage	{ Gaining ...	...	...	...	...	94.3	89
	Stationary ...	...	...	...	...	3.1	8
	Losing ...	...	...	...	...	2.6	4
Average gain	...	...	...	Males.	Females.	All cases.	
Gains of 30 lbs. and over	...	...	...	9 lbs.	8 lbs.	8.7	
.. 20-30 lbs.	...	...	...	2	1		
.. 10-20 lbs.	...	...	...	6	1		
				56	20		

## SPUTUM.

On admission :—

			Stad. I.	Stad. II.	Stad. III.
Males	... 32 had no sputum	...	17	13	2
	115 had sputum T.B. —	...	55	57	3
	47 had sputum T.B. +	...	17	25	5
Females	... 40 had no sputum	...	21	16	3
	52 had sputum T.B. —	...	25	25	2
	9 had sputum T.B. +	...	2	4	3

The following table shows the progress made :—

	Admitted No Sputum.			Admitted Sputum T.B. —			Admitted Sputum T.B. +				
	Stad.	Remained No Sptm.		Became T.B. —		Remained T.B. —		Became No Sptm.		Became T.B. +	
		Remained	Became	Remained	Became	Remained	Became	Remained	Became	Remained	Became
Males	I.	15	2	0	32	23	0	5	3	9	
	II.	10	3	0	40	15	2	11	2	12	
	III.	0	2	0	2	1	0	4	0	1	
Females	I.	20	1	0	10	15	0	0	1	1	
	II.	14	2	0	10	15	0	1	1	2	
	III.	1	1	1	0	0	2	2	0	1	

As will be seen from this table :—

69 males and 40 females were discharged with no sputum.

103 males and 52 females were discharged with sputum T.B. —

22 males and 9 females were discharged with sputum T.B. +

## Bacillary Loss.

*Males*.—Of the 47 males who had a positive sputum on admission 27 were discharged with either no sputum or with sputum T.B. negative, *i.e.*, a bacillary loss of 57 per cent. The cases were distributed as follows :—

Stad. I.—12 cases ; Stad. II.—14 cases ; Stad. III.—1 case.

*Females*.—Of the 9 admissions with sputum T.B. + 6 were discharged with either no sputum or sputum T.B. —, *i.e.*, a bacillary loss of 66 per cent. Cases were distributed as follows :—

Stad. I.—2 cases ; Stad. II.—3 cases ; Stad. III.—1 case.

## WORKING CAPACITY.

*Males*.—Of the 194 admissions 190 were admitted with impaired working capacity, and of this number 16 were unfit to do any work whatever.

On discharge 122 had regained full working capacity ; 66 had impaired working capacity (*i.e.*, fit for light work only and not for a full day), while 6 were unfit for work.

*Females*.—Of the 101 admissions 99 were admitted with impaired working capacity ; of this number 5 were unfit for any work.

On discharge 67 had regained full working capacity, 27 had impaired working capacity, and 7 were totally unfit for work.

The following table shows the progress made :—

A = working capacity unimpaired.

B = working capacity impaired.

C = totally unfit for work.

	Admitted Work A.			Admitted Work B.			Admitted Work C.			
	Stad.	Remained	Became	Became	Remained	Became	Remained	Became	Became	
		A.	B.	C.	B.	A.	C.	A.	B.	
Males	I.	2	0	0	19	62	1	1	4	0
	II.	1	0	0	38	47	1	0	4	4
	III.	0	1	0	3	1	2	1	1	1
Females	I.	1	0	0	9	37	0	0	0	1
	II.	0	0	0	15	27	1	0	2	0
	III.	0	1	0	1	0	4	2	0	0

## TREATMENT.

The general principles of fresh air and abundance of good food are observed. The Sanatorium, owing to its construction and situation, receives more than an average amount of fresh air and sunlight; in addition, the patients sleep out of doors on the verandahs most of the summer.

During the 9 months from April 1st to December 31st we had 1,208 recorded hours of sunshine, with a rainfall of 25 inches, and about 50 per cent. of this fell in November and December.

Heliotherapy was extensively practised, and I consider its results were excellent. Due care must be observed at the onset, both with regard to the amount of body surface exposed and the time of exposure. It appears best to begin with the distal parts of the extremities, gradually approaching the trunk, then chest and abdomen. Eventually, the males are able to carry out their graduated labour, wearing only a hat, shorts and sandals or shoes; they wear a loose shirt during the rest hours in the middle of the day. One of two cases of surgical Tuberculosis—complicating their pulmonary disease—derived special benefit. The amount of pigmentation of the skin is a good indication of the general improvement.

Drugs, including antiseptic inhalation, are used when indicated. Tuberculin P.T.O. was used in a number of suitable cases.

Graduated rest, exercise and work. Apart from the great benefit, mental and physical, derived by the patient from this form of treatment, it is of considerable value to the Sanatorium.

Among other work the following has been done :—

Fencing in of fields, making of macadamised roads, digging of  $4\frac{1}{2}$  acres for potatoes and other vegetables; clearing of undergrowth from larch and pine plantations; cutting of lawns, over 8,000 sq. yards; pig and poultry keeping, etc., etc.

## RESULTS OF TREATMENT.

As in past years, this is recorded in terms of alteration in the state of the lung disease. As this takes into consideration only one aspect of the change, it cannot be said to be an ideal method. Some seventy males were assessed by Dreyers' Method of estimating physical fitness on admission and on discharge. This would appear to be much more satisfactory, considering as it does vital capacity, and its relation to trunk length, chest measurement, and weight. The findings, however, are too lengthy to be incorporated in an annual report.

Pulmonary progress is classified as :—

1. Much Improved.
2. Improved.
3. In Statu Quo.
4. Worse.

Stadium ...	MALES.				FEMALES.				ALL CASES.
	I.	II.	III.	Total.	I.	II.	III.	Total.	
Much improved ...	50	32	2	84	29	16	1	46	130
Improved ...	36	53	6	95	15	24	5	44	139
In statu quo ...	3	6	1	10	4	3	0	7	17
Worse ...	0	4	1	5	0	2	2	4	9

## TUBERCULOSIS AND THE MILK SUPPLY.

## REPORT BY MR. BRENNAN DE VINE, F.R.C.V.S., VETERINARY SUPERINTENDENT.

The effort to reduce the amount of tubercle infection in the milk sold in the city has been continued on the lines of previous years, viz. :—

- (a) The detection of infected milk.
- (b) The detection of cows with tuberculosis of the udder.
- (c) The eradication of tuberculosis from dairy herds supplying milk to Birmingham.

The following milk samples have been taken :—

	Farms in City Area.		Farms Outside.		Lorries & Railway Stations.		Total.	
	Mixed.	Individual.	Mixed.	Individual.	Stations.			
Free ...	...	...	—	8	13	31	175	227
Infected ...	...	...	—	—	3	8	9	20
			—	—	—	—	—	—
			—	8	16	39	184	247
			—	—	—	—	—	—

From this it will be seen that all infected milk was traced from the lorry and station samples to outside sources, and eight cows were found to be giving infected milk. These eight cows were all slaughtered.

## ERADICATION OF TUBERCULOSIS FROM DAIRY HERDS.

During the year 16 herds, comprising 483 cows, were being dealt with under the scheme for the eradication of tuberculosis from herds supplying milk to the city. Of these 15 herds, numbering 464 cows, were free, and one herd of 19 cows was being freed.

Two new herds, comprising 30 cows were tested for the first time, but in one case the test was discontinued owing to the high percentage of reactors, 8 of the 11 cows tested having failed.

During the year the testing of 6 herds has been discontinued; in 3 cases owing to there being too many reactors, and in the other three cases owing to the milk being sent elsewhere.

No.	Appr'x- imate No. of Cows in Herd.	Herds being Freed.			Non- br'ding Herd.			Mixed Br'ding & Non- br'ding Herd.		City Dairies.	Outside Dairies.
		Herds Free.	Herds Freed.	Br'ding Herd.	Non- br'ding Herd.			Br'ding & Non- br'ding Herd.			
1	...	...	...	6	1	—	—	1	—	—	1
2	...	...	...	10	1	—	1	—	—	—	1
3	...	...	...	16	1	—	—	—	1	—	1
4	...	...	...	10	1	—	—	1	—	1	—
5	...	...	...	36	1	—	—	1	—	1	—
6	...	...	...	110	1	—	1	—	—	1	—
7	...	...	...	23	1	—	—	—	1	—	1
8	...	...	...	24	1	—	1	—	—	—	1
9	...	...	...	22	1	—	1	—	—	—	1
10	...	...	...	38	1	—	1	—	—	1	—
11	...	...	...	15	1	—	—	—	1	—	1
12	...	...	...	19	1	—	—	—	1	—	1
13	...	...	...	55	1	—	—	—	1	—	1
14	...	...	...	20	1	—	1	—	—	—	1
15	...	...	...	60	1	—	1	—	—	—	1
16	...	...	...	19	—	1	—	—	1	1	—
—	...	...	...	25	discontinued.						
—	...	...	...	13	“						
—	...	...	...	11	“						
—	...	...	...	11	“						
—	...	...	...	25	“						
—	...	...	...	26	“						
—	...	...	...	19	“						

## COW TESTING.

The testing of the above herds has been carried out half-yearly. From the tabulated list it will be seen that 877 cows were tested during the year, of which 752 passed the test and 125 failed to pass.

No.	Cows Tested.	Passed.		(Reactors and Doubtful).
		...	...	
1	6	6	...	—
2	18	18	...	—
3	35	35	...	—
4	8	8	...	—
5	87	65	...	22
6	183	178	...	5
7	23	18	...	5
8	37	35	...	2
9	42	41	...	1
10	66	66	...	—
11	30	30	...	—
12	24	15	...	9
13	118	91	...	27
14	35	29	...	6
15	60	60	...	—
16	59	44	...	15
—	24	8	...	16
—	11	2	...	9
—	11	3	...	8
	877	752	...	125

The cows which failed to pass were in most cases cows which were purchased subject to their passing the tuberculin test, or cows in herds tested for the first time. The newly-purchased cows which failed to pass the test were returned to the vendors. The doubtful reactors in tested herds were isolated and again subjected to the test a month later. About 70 per cent. of these doubtful reactors eventually passed.

The newly-purchased and cows tested for the first time numbered 168; of these 20, or 11·9 per cent., reacted, and 14, or 8·33 per cent., were doubtful, i.e., 20·23 per cent. failed to pass the test, as compared with 22·41 per cent. last year.

#### COST INCURRED BY TESTING HERDS.

The testing of the herds has continued to be carried out partly by the Corporation Veterinary Officers and partly by local Veterinary Surgeons on behalf of the Corporation. The cost of this work during the year was £89 18s. 6d., of which £28 0s. 0d. was for tuberculin and £61 18s. 6d. for veterinary fees and expenses. In 1920 the cost was £126 0s. 7d., and in 1919 £133 5s. 0d.

BRENNAN DE VINE,

*Veterinary Superintendent.*

#### INFANT MORTALITY.

**The Infant Mortality rate for 1921 was one of the lowest on record. The greatest reduction took place in the poorest wards. The children who do not die are now healthier and stronger than formerly.**

In the following table the average mortality in five-yearly periods is set out since 1901, together with similar figures for England and Wales:—

					Birmingham.	England and Wales.
1901-05	...	...	...	...	157	138
1906-10	...	...	...	...	131	117
1911-15	...	...	...	...	126	110
1916	...	...	...	...	104	91
1917	...	...	...	...	101	96
1918	...	...	...	...	99	97
1919	...	...	...	...	84	89
1920	...	...	...	...	83	80
1921	...	...	...	...	83	83

From the above table it will be seen that the infant mortality rate for the five years 1901—1905 was 157 per 1,000 births, while for the years 1917—1921 it was 90 per 1,000 births, representing a reduction of 43 per cent. in these two five-year periods of recent date. The reduction may be said to be continuous and uniform, notwithstanding the occurrence of adverse conditions, such as the past very warm summer, various epidemics, and the prevalence of great industrial distress.

The mortality rates in the various municipal wards are set out in the following statement:—

		Infant Mortality Rate, 1921.	Infant Mortality Rate, 1912-1920.	Increase or Decrease in 1921.
Central Wards :	St. Paul's ...	106	141	-35
	St. Mary's ...	116	167	-51
	Duddeston and Nechells ...	104	144	-40
	St. Bartholomew's ...	113	145	-32
Average infant mortality rate, 105.	St. Martin's and Deritend ...	85	133	-48
	Market Hall ...	117	130	-13
	Ladywood ...	96	124	-28
	Lozells... ...	87	96	- 9
Middle Ring :	Aston ...	82	112	-30
	Washwood Heath ...	91	95	- 4
	Saltley... ...	75	90	-15
	Small Heath ...	57	84	-27
Average infant mortality rate, 77.	Sparkbrook ...	60	88	-28
	Balsall Heath ...	62	83	-21
	Edgbaston ...	75	81	- 6
	Rotton Park ...	78	107	-29
	All Saints' ...	104	104	-

				Infant Mortality Rate, 1921.	Infant Mortality Rate, 1912—1920.	Increase or Decrease in 1921.
Outer Ring :	Soho	...	...	57	85	-28
	Sandwell	...	...	72	72	-
	Handsworth	...	...	69	76	-7
	Erdington North	...	...	44	70	-26
	Erdington South	...	...	68	69	-1
	Yardley	...	...	43	77	-34
	{ Acock's Green	...	...	62	77	-15
Average infant mortality rate, 61.	Sparkhill	...	...	67	63	+4
	Moseley and King's Heath	...	...	69	59	+10
	Selly Oak	...	...	47	72	-25
	King's Norton	...	...	60	70	-10
	Northfield	...	...	97	65	+32
	Harborne	...	...	42	67	-25
	City	...	...	83	106	-23

The infantile mortality rates in the eight largest towns (from the Registrar-General's figures) were as follows :—

Glasgow	...	...	...	...	...	...	106
Birmingham	...	...	...	...	...	...	82
Liverpool	...	...	...	...	...	...	105
Manchester	...	...	...	...	...	...	94
Sheffield	...	...	...	...	...	...	98
Leeds	...	...	...	...	...	...	96
Bristol	...	...	...	...	...	...	66
Edinburgh	...	...	...	...	...	...	96
England and Wales	...	...	...	...	...	...	83

In spite of the long warm summer in 1921 and the danger of a heavy mortality from Diarrhoea the infant mortality rate did not rise.

The following table shows for each year since 1897 the total infant mortality rate and the infant mortality rate from all causes other than Diarrhoea and Enteritis.

Year	(Old City Area)	Total Infant Mortality Rate.	Infant Mortality less Diarrhoea and Enteritis.
1897	(Old City Area)	214	147
1898	...	190	135
1899	...	193	130
1900	...	199	151
1901	...	188	141
1902	...	157	133
1903	...	158	126
1904	...	195	145
1905	...	155	124
1906	(Present Area)	157	110
1907	...	133	117
1908	...	130	105
1909	...	121	106
1910	...	115	99
1911	...	150	103
1912	...	111	102
1913	...	129	100
1914	...	122	100
1915	...	118	95
1916	...	104	90
1917	...	101	89
1918	...	99	84
1919	...	84	76
1920	...	83	74
1921	...	83	69

The next table shows the causes of death and the ages during the first year of life :—

INFANTILE MORTALITY DURING THE YEAR 1921.

*Deaths from stated Causes in Weeks and Months under One Year of Age.*

Cause of Death.	Weeks.				Total under 1 m'nth	Months.				Total Deaths under 1 year.
	0.	1.	2.	3.		1	3.	6.	9.	
Measles ... ... ...	—	—	—	—	—	—	3	12	21	36
Scarlet Fever ... ... ...	—	—	—	—	—	—	—	1	1	2
Whooping Cough ... ... ...	—	—	—	—	—	13	10	14	13	50
Diphtheria and Croup ... ... ...	—	—	—	—	—	—	—	—	2	2
Influenza ... ... ...	—	1	—	—	1	3	3	—	—	7
Tuberculous Meningitis ... ... ...	—	—	—	—	—	—	7	4	6	17
Abdominal Tuberculosis ... ... ...	—	—	—	—	—	—	—	1	1	2
Other Tuberculous Diseases ... ... ...	—	—	—	—	—	—	3	2	4	9
Rickets ... ... ...	—	—	—	—	—	—	—	—	1	1
Syphilis ... ... ...	—	1	7	6	14	16	4	2	1	37
Encephalitis Lethargica ... ... ...	—	—	—	—	—	—	—	—	1	1
Cerebro-Spinal Fever ... ... ...	—	—	—	—	—	1	2	—	—	3
Meningitis (not Tuberculous) ...	—	—	—	—	—	—	7	—	4	11
Convulsions ... ... ...	9	6	5	1	21	17	11	13	8	70
Bronchitis ... ... ...	2	4	5	6	17	40	26	21	14	118
Pneumonia (all Forms) ...	1	4	9	5	19	38	43	57	71	228
Gastritis ... ... ...	—	1	—	—	1	2	9	4	5	24
Diarrhoea, Enteritis, etc. ...	1	6	12	4	23	69	110	73	33	308
Congenital Malformations ...	30	8	13	3	54	16	9	2	1	82
Premature Birth ... ... ...	306	53	33	17	409	34	2	2	—	447
Atrophy, Debility and Marasmus ...	59	32	24	11	126	43	23	13	9	214
Atelectasis ... ... ...	20	5	—	1	26	—	—	—	—	26
Injury at Birth ... ... ...	22	4	4	—	30	1	—	—	—	31
Neglect (under 3 months) ...	5	—	—	—	5	—	—	—	—	5
Suffocation (Overlying) ...	2	1	—	1	4	9	5	1	—	19
Other causes ... ... ...	12	4	6	2	24	14	15	12	23	88
All causes ... ... ...	469	130	118	58	775	323	287	235	218	1838

ILLEGITIMACY AND INFANT MORTALITY.

Among "legitimate" babies the infant mortality rate in 1921 was ... 81  
 Among "illegitimate" babies the infant mortality rate in 1921 was ... 135

STILLBIRTHS.

There were 804 stillbirths reported, against 911 in 1920 and 744 in 1919. These occur among all classes of the population and among mothers of all ages.

CHILD MORTALITY (AGES 1 TO 4 INCLUSIVE).

The total number of deaths of children over 1 year and under 5 during each year since 1912 can be seen below :—

1912 ... ... ...	1,649	1917 ... ... ...	1,121
1913 ... ... ...	1,545	1918 ... ... ...	1,390
1914 ... ... ...	1,519	1919 ... ... ...	1,008
1915 ... ... ...	1,362	1920 ... ... ...	938
1916 ... ... ...	1,275	1921 ... ... ...	728

The deaths in this group in 1921 were less than half those occurring in 1912. It is obvious that the number of deaths in this group is capable of still further reduction.

The causes of death were as follows :—

		1917.	No. of Deaths.		1920.	1921.
(1)	Measles	246	1918.	1919.	98	105
(2)	Whooping Cough	84	171	38	97	38
(3)	Diphtheria	62	65	54	87	52
(4)	Scarlet Fever	6	4	17	57	20
(5)	Tuberculosis, all forms	107	79	67	55	57
(6)	Bronchitis and Pneumonia	294	480	390	297	237
(7)	Diarrhoea and Enteritis	63	83	48	45	72
(8)	Burns	42	30	32	20	14
(9)	All other causes	217	427	238	182	133

Measles, Whooping Cough, and Bronchitis and Pneumonia cause the largest number of these deaths. Every year the largest mortality is from the lung diseases, Bronchitis and Pneumonia. Children ought not to die from these diseases, and effort must be directed to this preventable group.

#### MATERNITY AND CHILD WELFARE CENTRES.

On April 1st the Welfare Centres at Selly Oak and Greet were taken over from the Voluntary Societies, and on August 1st the Centre at Aston Street was similarly transferred. At the end of the year there were 17 Municipal and 4 Voluntary Centres in operation. In the case of the Voluntary Centres, 80 per cent. of the approved expenditure is defrayed by the City Council and is included in their claim for the grant available from the Ministry of Health.

The special staff engaged in Maternity and Child Welfare work comprises :—

- 5 Lady Doctors (whole time).
- 6 Doctors (part time).
- 1 Dentist (part time)
- 1 Superintendent of Health Visitors.
- 1 Child Welfare Organiser.
- 1 Superintendent of Home Helps.
- 2 Midwives' Inspectors.
- 64 Infant Visitors.
- 19 Health Visitors (part time).
- 5 Sewing Mistresses.
- 6 Cookery Attendants, etc.

The primary visits paid by the Infant Visitors and Health Visitors to births (including stillbirths) amounted to 21,869, and the re-visits to infants and young children to 173,282. At these visits, advice is given as to feeding of the babies and in other matters, and the mothers are urged to bring their children to the Welfare Centre, where they can be weighed and seen by the Lady Doctor in charge.

At the 21 Centres, 2,610 sessions for infants and children were held during the year. The number of fresh children attending was 14,988, or about 70 per cent. of the total number born.

There were 824 sessions for mothers who needed advice in connection with their confinement, at which 4,683 fresh cases attended.

Details of the work done at the individual centres are shown in the table on page 40

A dental clinic is held in Broad Street for mothers and children whose health is endangered by the bad condition of their teeth. At this clinic, 909 attendances by mothers and 147 by children were made.

#### MATERNITY AND CONVALESCENT HOMES.

The Heathfield Road Maternity Home was opened for the reception of cases in October, 1920. During 1921 there were 185 cases admitted. A second home in Penns Lane was opened in February, 1921, and from that date till the end of the year, there were 79 cases received.

Pype Hayes Hall was used throughout the year as a convalescent home for mothers and their babies, the number of women admitted being 380.

MATERNITY AND CHILD WELFARE CENTRES—YEAR 1921.

Infants and Children :—												Total.		
Births (and stillbirths) reported ...												Harborne.		
Primary visits ...												Handsworth.		
Re-visit (infants and children) ...												Cotterley and Stretford.		
Total visits and re-visits ...												Floodgate St.		
Mothers :—												Washwood Heath Rd.		
Primary visits ...	... 407	1403	108	1157	513	1636	109	594	1610	1630	597	1126	1376	19360
Re-visits ...	... 412	481	1296	1107	419	1630	1203	580	1550	1520	536	1151	1302	286
Total visits and re-visits	... 11281	6317	10343	2306	8814	3565	15598	7845	6567	14022	4909	12557	9568	18718
Children's Consultations :—												759		
Number held ...	... 100	97	192	48	144	50	196	207	47	191	194	1668	243	169482
Fresh children attending ...	... 345	410	1002	80	783	212	1430	176	302	1732	1211	471	1099	188200
Total attendances ...	... 5092	4399	6913	992	5982	1966	8104	8863	2262	17234	9255	5305	1168	169482
Number seen by Doctor ...	... 1131	2769	4744	684	3197	1268	3969	4553	1186	5069	4785	2549	4084	188200
Mothers' Consultations :—												501		
Number held ...	... 22	47	48	50	28	43	49	50	48	549	337	290	116	501
Fresh mothers attending ...	... 223	230	48	319	87	364	160	595	210	997	841	664	138	451
Total attendances ...	... 459	431	558	56	654	654	160	595	210	997	841	664	138	451
Attendance at :—												158		
Sewing classes ...	... 1255	760	519	66	112	25	497	168	480	714	—	—	241	9335
Cookery classes ...	... 202	—	322	—	142	—	—	—	—	71	166	180	342	1645
Health talks ...	... 726	580	557	537	537	537	537	537	537	352	1825	2029	2877	20685

### HOME HELPS.

The scheme for supplying Home Helps to families during the confinement of the mother, came into operation in October, 1920, and during 1921 the number of cases dealt with was 123. The Home Helps are engaged to do the cleaning, cooking, and general supervision of the house and do not undertake the duties of a nurse.

### WITTON BABIES' HOSPITAL.

This Hospital was opened on February 14th. Up to December 31st it had admitted a total of 168 patients to the 25 beds which it contains.

Of the 168 patients, 102 were admitted because they were suffering from some form of wasting disease, as found by the doctor in one of the Maternity and Child Welfare Centres.

The other 66 were admitted because they were suffering from Epidemic Diarrhoea, and were not in a moribund condition when recommended for admission. While the cases of diarrhoea were admitted, the other infants were sent home to prevent infection spreading. The diarrhoea cases were admitted between August 18th and October 10th. The ward was effectively cleansed and disinfected before being re-opened for Marasmus cases on October 24th.

The treatment of these cases was under the daily charge of Dr. Muriel Hartley, who had the assistance and advice of Dr. Leonard Parsons, Lecturer on Diseases of Children at the University of Birmingham, and Physician to the Children's Hospital and General Hospital, Birmingham. The general results of the treatment have been very good and many of the children have been restored to health.

In the case of the patients suffering from Epidemic Diarrhoea, there were 11 deaths among the 66 patients admitted. In a good many cases, the type of the diarrhoea was not the most acute. This may account for at least part of the favourable results.

There was a somewhat alarming spread of diarrhoea among the staff at the Hospital. Out of a staff of 25, twenty were attacked between August 18th and October 7th. On August 21st, five nurses sickened, but all the others sickened on separate dates. None of the cases was severe, and most of the patients would have continued at work but for the fact that they were instructed to desist at once. The most severe case had vomiting, pain, headache and diarrhoea (three to eight stools a day).

A boy who lives at the Porter's Lodge, but who did not mix with the staff is said to have had an attack of diarrhoea towards the end of July. The first baby was admitted with Epidemic Diarrhoea on August 18th. The first nurse to be attacked was on August 18th. There were five nurses attacked on August 21st, two laundresses on August 22nd, one wardmaid on August 23rd, a maid on August 24th, a nurse on September 4th, and then others on the 12th, 17th, 20th, and 27th of September and the 5th, 6th and 7th October.

At this Hospital there was quite an extraordinary prevalence of flies. Early in the summer it became necessary to cover all the cots with mosquito nets, and this effectively kept the flies from the babies under treatment. But there was no fly-proofing where the babies were being fed, nor was the changing room fly-proof. The soiled linen was either rinsed at once, or kept in a covered bin.

Near the babies' ward, is a separate building for nurses and maids. No attempt had been made to fly-proof either the milk preparation room or the kitchen in the nurses' block. It was therefore possible for infected flies to pass from the food room in one building to that in another, or from the changing room.

It is a little difficult to understand why flies should be so numerous at this Hospital. At the time of the outbreak, the fields surrounding the hospital had growing corn. About 500 yards to the west, there is a farm building. To the south of the hospital there are two cottages about 550 yards distant, and the Aston Fever Hospital about 400 yards distant. Apart from these buildings, there are no other houses for nearly half a mile.

I am informed that some of the fields near the Hospital were manured with city ashpit refuse. The Hospital porter, who has lived at the Hospital for eleven years, was of the opinion that the flies were bred in the fields, and that when the corn was cut they came off to the Hospital in increased numbers.

I have little doubt that the infection was spread by flies. Strict barrier nursing, with every convenience for it was carried out during the whole summer. When the diarrhoea cases were admitted, the nurses were familiar with the routine and carried it out with special care.

The fly nuisance was extreme. At its height, it was necessary to empty the fly traps every two hours, when from one to five hundred flies were killed.

Without having seen the condition of affairs during the summer of 1921, it would have been possible to assert that the site of this hospital was ideal, because, in addition to its sunshine, it was surrounded on all sides by farm lands under corn or potatoes. No accumulation of manure was stored at the Hospital. Two of three acres of potato land at the Hospital was manured with stable dung before planting the potatoes.

There was no evidence that the patients were re-infected at the Hospital, although this might have occurred despite barrier nursing. The question of the use of this Hospital for Epidemic Diarrhoea cases must be considered. If it is decided to continue its use for this disease, then the babies should be fed and changed in a fly-proof room, and the milk preparation room and the kitchen should be fly-proofed.

#### DINNERS FOR MOTHERS.

During the year there were 29,970 dinners served, which is 11,000 more than last year.

All the Maternity Feeding Centres—except Smith Street—are supplied with cooked food from a cook shop. The dinners supplied have been of good quality and on the whole quite satisfactory.

The dinner consists of roast or boiled joints of beef or mutton, with potatoes and a green vegetable, and either a suet pudding, fruit pie, or milk pudding.

This is, for most mothers, the only substantial meal of the day, as the remaining meals consist chiefly of bread, margarine, and tea. The reports from doctors and visitors as to the improvement of health in the mothers and babies after regular attendance at the dinners have been most satisfactory.

The women themselves very much appreciate the meal, and the regularity of attendances has been a special feature.

In view of the distress due to unemployment, it was found necessary to open two additional centres at the beginning of November—one is at St. Stephen's Hall, Newtown Row (where a small charge is made for the use of the rooms); the other at Dyson Hall, Aston, where the rooms have been lent free of charge. These feeding centres have met an urgent need.

Voluntary helpers assist in the serving of the dinners at most centres, but at Smith Street Centre a small committee of ladies take entire charge of this work, thus relieving the Infant Visitors. We require more voluntary helpers to carry out this plan at the other feeding centres.

The following figures show the attendances at the individual centres for the year 1921 :—

				Average daily attendance.	Total attendance.
(1)	Bloomsbury Street ...	...	...	30	7,256
(2)	Hope Street	...	...	33	8,071
(3)	River Street	...	...	21	5,141
(4)	Smith Street	...	...	35	7,786
(5)	Newtown Row (opened November)	...	...	24	844
(6)	Dyson Hall (opened November) ...	...	...	25	872
Total cost of food				£794 9 1	
Receipts				227 1 3	
Net cost of food per meal				0 0 4½	
Transport cost				57 6 0	

#### MILK (MOTHERS AND CHILDREN) ORDER.

The distribution of milk at a reduced rate to mothers and young children was commenced again on January 1st, when the ordinary price was 1s. 0d. per quart, and was continued until May, when the price had fallen to 7d.

The number of families for whom application was made was 1,199 and in 1,002 instances, the application was granted. The number of persons to whom the grants applied was 1,791, viz. :—

64 nursing or expectant mothers.

811 infants under 1 year.

916 children between 1 and 5 years.

The milk was supplied for one month in 585 instances, two months in 314, three months in 78, and four months in 25.

### PUERPERAL FEVER.

The cases and deaths from this disease are set out below :—

Year.			Cases.	Deaths.	Deaths per 1,000 births, &c.
1912	...	...	78	27	1·07
1913	...	...	112	44	1·64
1914	...	...	149	33	1·24
1915	...	...	161	35	1·43
1916	...	...	170	31	1·29
1917	...	...	97	26	1·28
1918	...	...	92	29	1·49
1919	...	...	105	23	1·01
1920	...	...	148	51	1·75
1921	...	...	105	26	1·03

It will be noted that the number of deaths during 1921 was little more than one-half those occurring in 1920. There would appear to be some connection between the number of cases and types of Scarlet Fever prevalent and the occurrence of Puerperal Sepsis. Both 1913 and 1920 were years of high Scarlet Fever prevalence and Puerperal Sepsis.

During 1921 a definite outbreak of Puerperal Sepsis occurred at the Maternity Hospital, associated with indefinite sore throat among certain members of the staff. At the time the following report was made on the outbreak :—

I beg to submit the following information in regard to the occurrence of five cases of Puerperal Fever, with four deaths, at the Birmingham Maternity Hospital during the month of August. The cases are enumerated in the following tabular statement :—

Name of patient.	Age.	Admitted to Maternity Hospital.	Transferred to Women's Hospital.	Date of death.	Complications,
Mrs. R. ...	32	6/8/21	8/8/21	15/8/21	22/8/21 Small pelvis; forceps.
Mrs. M. ...	41	14/8/21	14/8/21	16/8/21	20/8/21 Version attempted by private practitioner; forceps.
Mrs. C. ...	41	12/8/21	14/8/21	17/8/21	18/8/21 Fibroid tumour.
Mrs. R. ...	30	20/8/21	22/8/21	24/8/21	30/8/21 Eclampsia, sloughing vagina.
Mrs. R. ...	38	25/8/21	25/8/21	1/9/21	Doing well. Normal case: rigor, Sept. 1st.

The first case is that of Mrs. R., a primipara delivered by forceps, on account of a small pelvis. The perineum was torn, and three stitches were required. Mrs. R. was admitted on August 6th, confined on the 8th, and died on the 22nd.

The next case was that of Mrs. M. This woman was sent to hospital from Sutton Coldfield, where her own doctor had attempted version on account of a face presentation. She was admitted on August 11th and delivered the same day. At the hospital version was successfully carried out and forceps applied. She died from Puerperal Sepsis on the 20th August.

The third case was that of Mrs. C. She was admitted on August 12th on account of a tumour complicating labour. Forceps were applied, and the perineum was torn and had to be stitched. This woman was confined on August 14th and died on the 18th.

The fourth case was that of Mrs. R. She was admitted on August 20th, confined on the 22nd, and died on the 30th. She was sent in by a doctor on account of eclampsia, and was very ill and unconscious. She was delivered of twins by forceps. The first child was macerated and decomposing. The vagina was badly lacerated.

The fifth case was that of Mrs. R., who was admitted on August 25th and transferred to the Puerperal Fever Ward at the Women's Hospital on September 1st as the result of a high temperature and rigor. Her confinement was a normal one, and she has done quite well.

It will be noted that the first four cases were all extremely acute, death taking place in the case of Mrs. R. 14 days after confinement, in the case of Mrs. M. 6 days after confinement, in the case of Mrs. C. 4 days after confinement, and in the case of Mrs. R. 8 days after.

All the women were removed to the puerperal fever ward at the Women's Hospital as soon as definite signs of sepsis existed.

I have had a careful list prepared of the names of the doctors and nurses who were present during the confinement in each of these cases. I have also had a list made of all who were in attendance directly or indirectly on these women after their confinement and while they were in the ward at the Maternity Hospital. Without going into considerable detail the list shows that there was no one member of the staff present or having indirect connection with all the patients. The Maternity Hospital has a considerable staff of

their own, and in addition there are 23 pupil midwives under training, most of whom go into the wards at intervals. Altogether, the normal staff, including the pupils at the time of the puerperal fever outbreak, would amount to about 46 persons.

Having failed to get any indication that the sepsis was carried by any member of the staff from one patient to another, I made a very careful inquiry as to the health of the staff before and after the occurrence of these cases, and I am impressed with the number of cases of ailment having some septic condition attached to them which have occurred.

Briefly, the cases were as follows:—

A nurse was removed to the City Hospital with Diphtheria on June 29th. One of the patients whom this nurse attended contracted Scarlet Fever on June 30th, and was removed to the City Hospital. There was then an interval of six weeks.

On July 12th a charwoman, who came in twice a week, was reported to be suffering from Scarlet Fever.

On July 15th a ward maid had a suppurating discharge from the ear, and was treated at the Ear and Throat Hospital.

On July 26th a ward maid was reported to be suffering from Diphtheria and removed to the City Hospital.

On August 8th a pupil midwife had sore throat and swollen glands.

On August 16th another pupil midwife reported with sore throat.

On August 20th a pupil midwife was reported with sore throat, and on the 27th of that month a fourth pupil midwife was reported with a sore throat.

At or about this time the Matron was on the outlook for any cause of the sepsis in the above five cases of Puerperal Fever, and thinks that the pupils affected reported almost immediately after the symptoms of sore throat appeared. She believes that they were not on duty for any length of time with sore throat.

From my inquiry there appears to be no satisfactory evidence of the conveyance of infection from one patient to another, nor were any of the staff whom I have mentioned directly connected with the cases of Puerperal Fever, but it seems to me that the number of septic throat cases is considerable, and indicates that there was some general septic infection about the Hospital.

The Hospital authorities discontinued the admission of patients, and by September 5th the Hospital was cleared of puerperal women. The beds and pillows were removed for disinfection, the blankets and linen were washed, the wards were formalinised and then washed down, and spring cleaning was then carried out. The Hospital is to open on Thursday, the 8th inst.

The House Surgeon has undertaken to see the whole of the staff, with a view to getting any indication of septic conditions of the throat.

#### THE MIDWIVES ACTS, 1902 AND 1918.

There were 216 midwives who notified their intention to practise in Birmingham during 1921. Of these

128 were trained and certificated.

88 were "bona-fide" midwives.

In 1912 263 midwives notified their intention to practise, of whom 23 were trained and certificated, and 240 were "bona-fide" midwives.

The trained midwives have during these ten years increased by 105, while the "bona-fide" have decreased by 152.

This change is greatly to the advantage of the lying-in women in Birmingham.

The midwives attended 14,858 "cases" during 1921. Altogether there were 22,134 live births and 804 stillbirths, so that basing the cases on these births, the midwives attended approximately 65 per cent. of the births.

The fees charged by midwives varied from 25s. 0d. to 40s. 0d. per case.

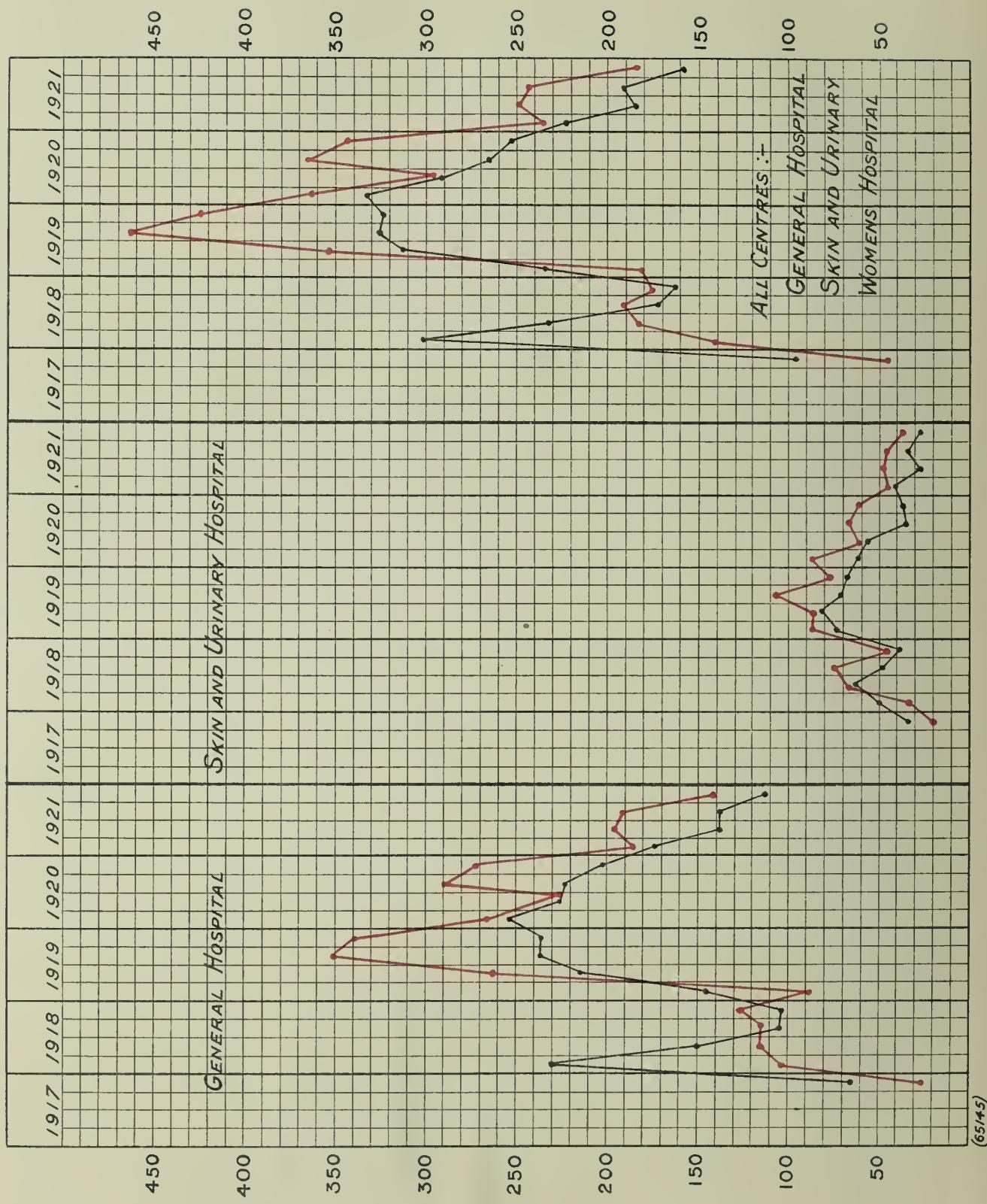
The midwives notified having called in medical help in 1,943 cases, i.e., in 13 per cent. of the cases.

The causes for requiring help in these cases were as follows:—

In the case of the mother.		In the case of the child.
Delayed labour	...	571
Laceration of perineum	...	265
Hæmorrhage	...	125
Adherent placenta	...	59
Placenta prævia	...	14
Abnormal presentation	...	127
Abortion or miscarriage	...	19
Rise of temperature	...	83
Eclampsia	...	9
Other causes	...	122
		245
		146
		10
		6
		37
		44
		51



VENEREAL DISEASE  
BIRMINGHAM TREATMENT CENTRES



(65/45)

NEW CASES OF SYPHILIS PER QUARTER —— NEW CASES OF GONORRHOEA PER QUARTER ——

One midwife was reported to the Central Midwives Board for general neglect of rules, and was subsequently struck off the roll.

One midwife was summoned for failing to notify her intention to practise, and was fined £2 and costs.

#### OPHTHALMIA NEONATORUM.

It is generally recognised that the inflammation of the eye known as ophthalmia neonatorum is caused in the majority of severe cases and some comparatively mild cases by gonorrhœal infection at birth or immediately after. A few severe cases are due to other septic infections, but a very large number of cases reported are mild infections of little import, and are not due to any type of gonococcal infection.

The total number of notified cases therefore, includes the specific and non-specific. The more active the campaign against this disease, the larger the number of mild cases reported.

During 1921 there were 427 cases notified, as compared with 444 in 1920. Endeavour is made to get immediate treatment in every case, and those patients who cannot afford or hesitate to afford proper medical care are advised to send the baby to the Eye Hospital, where an arrangement exists whereby any case of ophthalmia is seen at any time, without fee or hospital note.

During 1921, arrangements were made with the Governors of the Eye Hospital to admit mothers and infants, or infants alone, in every severe case in which any doubt existed as to the ability of the mother or relatives to carry out the treatment of the case. Between September 29th and December 31st, 11 such cases were admitted. It is hoped that advantage will be taken of this good means of treatment in an increasing number of severe cases.

Undoubtedly, the gonorrhœal infection is contracted in all these cases from the infant's mother, and it would be reasonable to caution the parents as to the need of treatment before another baby is born. Several cases have been noted where two or three infants in a family have been born with this serious eye complaint. It is, unfortunately, true that any such suggestion is resented so strongly, that it has been impossible to ask the midwife or doctor to make it in every case.

#### OPHTHALMIA NEONATORUM.

Number of cases notified ...	...	...	...	...	427
Attack rate per 1,000 births	...	...	...	...	19·3
In these cases—A Doctor attended	...	...	...	...	80
A Midwife attended	...	...	...	...	344
No information	...	...	...	...	3
Treated at Hospital	...	...	...	...	372
Died before treatment was completed	...	...	...	...	10
Left district before treatment was completed	...	...	...	...	1

All except one case were completely cured ; and in this case the sight of the left eye was lost.

#### VENEREAL DISEASES.

These diseases are popularly said to be rapidly on the increase, yet none of us has any title to make such a statement, for all our statistics are unreliable. On the other hand, the poor figures which we do possess indicate that in Birmingham at any rate there is a definitely falling incidence. (See chart opposite).

This popular exaggeration in regard to the incidence of disease is but one phase of a curious mental bias which exaggerates grossly everything relating to sex irregularities, and by this much aid is given to the common argument that "if everybody gets into trouble it cannot be very bad, and therefore, there is not much harm in going wrong once." Many young people are led astray by such statements.

It is the same mental bias which causes the intense interest in sex questions, whether presented in books, in pictures, on the stage, in the daily papers, or in the study of psychology.

To a large extent this exaggeration of the prevalence of immorality and disease comes from sex inquisitiveness due to the secrecy with which the subject is treated by most parents and teachers, and, therefore, depends on the ignorance of the young.

Sex inquisitiveness is perfectly natural at a certain age, and can be met by proper instruction and reliable information.

There seems to be at the present time a larger loss of self-control than formerly. This lack of self-control is seen in the constant seeking after unsubstantial things which gratify our senses for the time being.

Sex morality is a really important Public Health question. It is to immorality alone that venereal disease is due. To prevent these diseases a higher sense of self-control and self-respect is essential. It is not enough to attempt to cure these diseases ; they ought to be prevented and to do this the Public Health authority must enlist the aid of public opinion.

The figures for Birmingham since the free treatment of Venereal Diseases was commenced are indicated on the chart appended. They relate to new cases coming up for treatment for the first time, and clearly a decline is shown. It is probable that the curve fairly indicates the relative incidence of the disease quarter by quarter.

It is true to say that the facilities for treatment are now well known. In every public convenience and in those of all the large factories and workshops there is an enamelled iron notice indicating how treatment may be obtained. A very large number of lectures and addresses have been given to young adults during the past few years. By this means it is thought that few young people do not know how to get treatment.

The figures certainly do not represent the total number of patients in Birmingham, for we know that an indefinite number of cases seek private medical help, while a certain number neglect obtaining skilled help altogether or treat themselves.

*Syphilis.* There were 766 new cases of Syphilis treated at the free clinics, viz., 423 males and 343 females. It is probable that this figure approaches to the correct incidence of the disease, as it is known that but few cases are treated outside the clinics. The 766 cases represent that .08 per cent. of the population, or one person in 1,200, contracted infection, or 1 in 800 persons over the age of 15 years.

It will be noted that the cases were in the proportion of 81 females to 100 males. This probably represents the relative incidence.

Few of the patients were treated as in-patients. The figures represent that about four beds were kept continuously occupied.

Only 15 patients were discharged after a complete course of treatment and observation, and 98 left after completion of treatment, but before final tests were applied.

*Gonorrhœa.* There were 956 new cases of Gonorrhœa registered at the free clinics, as compared with 1586 in 1919. It will be noted that 825 of the cases were in males and 131 in females.

It is almost certain that a great many cases of Gonorrhœa are treated privately or have no treatment whatever. In the case of women the probable neglect of treatment is a serious matter. In some the disease in its early stages causes only transient inconvenience, but in most of these cases it becomes chronic, and may give rise to most serious consequences later in life.

The tables on page 47 give the details as supplied by the various clinics.

The Clinics for the City are as follows :—

A. *General Hospital.*

Tuesday mornings, from 10 to 12.	... } For Men.
Mondays, Tuesdays, Wednesdays, and Fridays, from 3 to 7 p.m.	... }
Tuesday mornings, from 10 to 12.	... } For Women.
Tuesdays and Fridays, from 3 to 7 p.m....	... }

B. *Skin and Urinary Hospital.*

Tuesday evenings, from 6 to 7-30.	... } For Men.
Friday evenings, from 6 to 7-30.	... }
Thursday evenings, from 5-30 to 7.	... For Women.

C. *Women's Hospital, Upper Priory.*

Thursdays, 1-30 to 4.	... } For Women.
Tuesday evenings, 6-30 to 8 p.m.	... }

It would appear that the evidence derived from the preceding figures indicate a failure on the part of women to recognise the need for treatment. This is either due to ignorance on their part, or to an objection to attending existing clinics. Probably the former is the more important cause.

## SYPHILIS.\*

	General Hospital. M.	General Hospital. F.	Skin and Urinary Hospital. M.	Skin and Urinary Hospital. F.	Women's Hospital. M.	Women's Hospital. F.	Total for M.	Total for F.	Total for M.	Total for F.	Total for M.	Total for F.
Number of new cases	...	...	327	237	96	29	—	77	423	343	704	441
Total number of attendances	...	...	5 432	5 351	2 053	733	—	2 917	7 485	9 001	12 783	9 298
Aggregate number of in-patient days	...	...	225	651	198	50	—	50	423	701	622	816
Ceased attendance before completion of treatment,	...	...	557	361	36	7	—	113	593	401	256	162?
Ceased attendance after completion of treatment, but before final tests	...	...	—	—	70	16	—	12	70	28	477	243
Discharged after completion of treatment and observation	...	...	5	6	2	2	—	—	—	7	7	3
Number of doses of Salvarsan substitutes	...	...	4,856	6	827	2	—	1,142	6 825	6 825	9 679	3
Number of patients under treatment or observa-	...	...	390	205	131	33	—	122	521	360	571	392
tion on January 1st, 1921	...	...	...	...	...	...	—	—	—	—	380	275
Number under treatment or observation, January	...	...	151	65	115	34	—	—	74	266	173	521
1st, 1922	...	...	...	...	...	...	—	—	—	—	—	—

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## GONORRHOEA.\*

	General Hospital. M.	General Hospital. F.	Skin and Urinary Hospital. M.	Skin and Urinary Hospital. F.	Women's Hospital. M.	Women's Hospital. F.	Total for M.	Total for F.	Total for M.	Total for F.	Total for M.	Total for F.
Number of new cases	...	...	662	56	163	8	—	67	825	131	1 190	185
Total number of attendances	...	...	25,044	6,30	6,022	184	—	159	32,066	973	31,359	1,722
Aggregate number of in-patient days	...	...	236	584	25	7	—	37	261	628	5,58	5,50
Ceased attendance before completion of treatment	...	...	851	64	55	2	—	25	906	91	547	55?
Ceased attendance after completion of treatment, but before final tests	...	...	—	—	98	5	—	22	98	27	695	87
Discharged after completion of treatment and observation	...	...	22	23	11	6	—	12	33	41	48	11
Number of patients under treatment or observa-	...	...	385	63	159	12	—	41	544	116	664	106
tion on January 1st, 1921	...	...	...	...	...	...	—	—	—	—	—	—
Number under treatment or observation, January	...	...	170	31	156	7	—	7	326	45	544	133
1st, 1922	...	...	...	...	...	...	—	—	—	—	—	—

\* Figures for Skin and Urinary Hospital relate to Birmingham residents only; those for other centres relate to all cases in attendance. About 90 per cent. of the total cases are Birmingham residents.

## PREVENTIVE WORK DURING 1921.

The work of spreading information on the subject of Venereal Diseases and the more important one of promoting sex morality has been carried on by the Birmingham Branch of the National Council for Combating Venereal Diseases. During 1921, 179 addresses and lectures have been given, and a large number of individuals have applied for advice and help to the Organising Secretary, who has an office for the purpose in the Public Health Department. This work has been well done, but like all work of an educational character results follow but slowly. The work, however, is meeting the needs of the City.

During the year this Branch issued a short declaration of its policy, a print of which is appended.

BIRMINGHAM BRANCH N.C.C.V.D.  
MEMORANDUM.

*The Birmingham Branch urge the following policy:—*

- (1) As regards the individual, instruction which upholds a high moral standard in social and family life, and at the same time points out the serious and terrible consequences both to the family, the State, and the moral and physical health of the individual if this standard is neglected.
- (2) As regards Society, instruction in the great influence of social, industrial and economic conditions on the practice of promiscuity, with a view to the promotion of active co-operation in attack on the social evils, including drink, by which promiscuity is encouraged.

With regard to disinfection, which is the point of special contention at the present moment, the Branch holds that the provision of stations for immediate treatment, and the advocacy of self-disinfection with the hope of immunity from consequences, act as a positive suggestion to promiscuity, and create a sense of security which must in many cases at least be illusive, and which will be an additional inducement to promiscuity.

This Branch therefore believes it must teach—

- (1) That pre-marital continence and abstention from extra-marital connection are the only means of safety.
- (2) That disease may be cured by prompt resort to skilled medical treatment, which may be lengthy and must not be interrupted till all risk is known to be past.
- (3) In addition, this Branch holds that all advertising of preventives of Venereal Diseases should remain illegal.

## COST OF VENEREAL DISEASES SCHEME FOR YEAR ENDING DECEMBER 31ST, 1921.

	£	s.	d.
General Hospital Clinic ... ... ... ... ... ...	4,612	18	6
Skin and Urinary Hospital Clinic ... ... ... ... ...	1,389	0	3
Women's Hospital Clinic ... ... ... ... ...	380	19	0
Cleveland House, Wolverhampton ... ... ... ...	66	13	0
Dr. E. W. Assinder ... ... ... ...	458	19	10
Cost of Salvarsan substitutes ... ... ... ...	1,384	15	6
Cost of Gonocoecal Vaeeine ... ... ... ...	306	3	4
Bacteriological Laboratory ... ... ... ...	105	1	6
Grant to Birmingham Branch of N.C.C.V.D. ... ...	250	0	0
Stationery and other expenses ... ... ... ...	11	12	4
	<hr/>		
	£8,966	3	3

## DETAILED EXPENDITURE OF CLINICS.

			General Hospital.	£	s.	d.	Skin and Urinary Hospital.	£	s.	d.	Women's Hospital.	£	s.	d.
Medical Officers	...	...	1,324	9	5		282	13	9		190	19	0	
Pathologists	...	...	300	0	0		96	5	0	...				
Salaries of orderlies, nurses, etc.	...	...	727	2	11		256	0	0	...				
Clerical and administrative salaries	...		227	16	5		75	0	0					
Provisions for officers	...	...	207	15	5		—			...				
Rent, rates, light, etc.	...	...	219	9	3		100	0	0	...				
Drugs	...	...	771	8	0		517	10	0	...				
Dressings	...	...	99	13	2		—			...	190	0	0	
Apparatus	...	...	275	4	8		—			...				
In-patient days	...	...	133	3	6		57	10	0					
Stationery, printing and postage	...		58	5	8		4	1	6	...				
Laundry (Officers')	...	...	43	17	10		—			...				
Building alterations	...	...	148	19	10		—			...				
Sundries	...	...	75	12	5		—			...				
				£4,612	18	6		£1,389	0	3		£380	19	0

## PERIOD OF INFECTIVITY IN VENEREAL DISEASES.

A good deal of doubt seems to exist as to the duration of infection of venereal diseases. Too often the disappearance of obvious symptoms is accepted by the public as sufficient evidence of the loss of infectivity.

The following statement was issued last year as the considered opinion of a Conference held in America. It is reproduced here as it appears to state the case as it applies to people in this country quite as accurately as it is at present possible to do.

## SYPHILIS.

With regard to the eligibility for marriage of a person who has suffered from syphilis, this Conference was of the opinion that the following medical considerations apply:—

1. The eligibility for marriage of the person who has or has had syphilis depends in the main upon the possibility of his transmitting the disease.

2. The impossibility of absolutely determining by arbitrary rule the limits of infectivity in all cases has been admitted.

3. The problem may be more difficult of solution in women than in men, owing to the paucity of clinical and laboratory evidence of the disease in the former.

4. The clinical experience of many years has justified as reasonably safe, the following fundamental requirements:—

(a) Three years of effective treatment.

(b) Two additional years of freedom from all signs and symptoms of the disease, under medical observation.

5. It is recognised that special types of cases may call for special interpretation, which, however, in all cases should be founded on the basic principles of effective treatment and prolonged painstaking observation for signs of recurrent or active syphilis.

6. In view of the inevitable element of uncertainty, however small, the prospective marital partner of a person who has or has had syphilis should be informed before marriage of the status of the case.

7. Medical examination to establish the presence or absence of syphilis before marriage should include not merely a blood Wassermann test, but an examination, clinical and serologic, of the entire body. If evidence of a previous or probable syphilitic infection presents, such examination should be especially searching, may include a period of observation, and should be interpreted by an expert.

## GONORRHœA.

With our present knowledge it is not scientifically and medically practicable to establish a standard for determining when gonorrhœa is cured. This statement, however, must not be understood as reflecting upon the ability of any specialist to make such a decision.

In the female the condition is complicated, on account of the fact that the primary manifestations may be so slight as to cause the patient no annoyance, but particularly on account of the tendency of the

disease to become latent. This latency is due to the fact that a minimal number of gonococci may be retained for months in a quiescent state in the depths of the cervical glands, and under certain conditions suddenly begin to multiply and give rise to an extension of the disease, accompanied by clinical symptoms. Accordingly, the disappearance of the initial clinical symptoms and the apparent freedom of the cervical secretion from gonococci do not necessarily indicate that the disease is cured.

On the other hand, in the male it is practicable to establish a reasonable standard for determining when gonorrhœa has been "probably cured." The criteria are based upon two distinct entities—(a) cure of the infection; (b) cure of the lesions of the disease.

In gonorrhœa, whether in the male or female, the duration of infectiousness has but a single slight relation to duration of the lesions—that is, the symptoms may continue long after the infectiousness has ceased, and, conversely, infectiousness may persist after all obvious symptoms have ceased.

As the problem is confined exclusively to the question of infectiousness, the word "cure," as here used, will be understood as equivalent to cessation of infectiousness.

There is no combination of clinical facts which constitutes conclusive evidence of a cure of gonorrhœa in the male. Therefore, the determination, as to whether cure has been effected depends upon the acumen and skill of the physician. The patient may be assured that he is probably cured if all of the following criteria are fulfilled:—

(a) No urethral discharge whatever for one month, during which time the patient is under observation without treatment.

(b) The first ounce of urine passed in the morning free from any cloud of pus, as examined in a glass or bottle by a strong light.

(c) All shreds in the urine continue to float at least two minutes after agitation of the fluid has ceased.

(d) Massage of the prostate and seminal vesicles expresses a fluid which, when examined under the microscope, is found to contain no gonococci or pus cells.

(e) It should be possible to pass a 26-F sound into the bladder, and examination the following day should satisfy conditions *a* and *b*.

(f) If these findings are confirmed at a second examination one month later, during which time there have been no symptoms or treatment, the patient should be regarded as cured.

All other cases should be examined by an expert, in order to determine whether or not they are cured.

## CANCER.

Despite all the research work which has been done and all the improvements in the methods of treatment, the deaths from this group of diseases continues to increase.

There is no other single disease which is so steadily though slowly increasing.

The following is the record of the deaths in Birmingham, and England and Wales since 1912:—

### CANCER DEATHS.

			Total Deaths in Birmingham.	Death Rates.	
				Birmingham.	England & Wales.
1912	...	...	791	.93	1.02
1913	...	...	893	1.02	1.06
1914	...	...	743	.88	1.07
1915	...	...	885	1.00	1.12
1916	...	...	897	1.00	1.17
1917	...	...	912	1.02	1.21
1918	...	...	883	1.02	1.22
1919	...	...	935	1.01	1.14
1920	...	...	1,014	1.12	1.16
1921	...	...	1,020	1.12	—

The ages at death of the 1,020 cases were as follows:—

Under 20	...	...	3	45—55	...	...	...	209
20—25	...	...	6	55—65	...	...	...	310
25—35	...	...	16	65—75	...	...	...	276
35—45	...	...	79	75 upwards	...	...	...	121

## CEREBRO-SPINAL FEVER.

There were nine cases of this disease reported during the year 1921, of whom two recovered and seven died, giving a mortality of 78 per cent.

Of these nine cases, five were confirmed bacteriologically and of these four died, giving a mortality in the verified cases of 80 per cent.

The corresponding figures for the past six years are shown as follows :—

Year.		Total Cases.		Percentage death rate.	Verified Cases.		Percentage death rate.
		Cases.	Deaths.		Cases.	Deaths.	
1916	...	29	19	65	13	9	69
1917	...	29	21	72	18	11	61
1918	...	16	10	62	7	4	57
1919	...	14	9	64	11	7	63
1920	...	25	18	72	22	15	68
1921	...	9	7	78	5	4	80

The ages of the patients attacked during 1921 were :—

		Males.		Females.		
		Cases.	Deaths.	Cases.	Deaths.	
0—1 year	...	2	2	2	2	
1—5 years	...	1	1	1	1	
5—10 years	...	—	—	—	—	
11—20 years	...	—	—	—	—	
21—30 years	...	1	—	1	1	
31—40 years	...	1	—	—	—	

Fuller particulars of each case are given below :—

Case.	Date of notification.	M. or F.	Age.	Whether verified by bacteriological examination.	Result.	
1	Jan. 3	F.	7 mths.	Yes	Died	12 days after onset.
2	„ 4	F.	3 mths.	Yes	Died	7 days after onset.
3	„ 27	M.	31	No organisms found	Complete recovery.	
4	Feb. 15	M.	3 mths.	No examination made	Died	18 hours after onset.
5	„ 18	M.	1 $\frac{1}{2}$	Yes	Died	29 days after onset.
6	May 19	F.	27	No organisms found	Died	7 days after onset.
7	June 18	F.	1 $\frac{1}{2}$	Yes	Died	2 days after onset.
8	Aug. 15	M.	27	Yes	Recovery.	
9	Nov. 17	M.	6 weeks	No organisms found	Died	22 days after onset.

All these cases were removed to Hospital :—

		Cases.	Died.
General Hospital	...	...	3
Queen's Hospital	...	...	2
Children's Hospital	...	...	2
Little Bromwich Hospital	...	1	1

#### ACUTE ANTERIOR POLIOMYELITIS.

Eleven cases of this disease were notified during 1921, and of these, one recovered completely, six recovered with some permanent paralysis, and four died.

The corresponding cases for the past six years are as follows :—

		Cases reported.	Completely recovered.	Recovered with various paralysis left.		Deaths.
				Recovered.	Deaths.	
1916	...	19	7	9	3	
1917	...	11	6	3	2	
1918	...	4	2	2	0	
1919	...	14	6	7	1	
1920	...	1	1	0	0	
1921	...	11	1	6	4	
		—	—	—	—	
		60	23	27	10	
		—	—	—	—	

More details of the 1921 cases are shown as follows :—

Case.	Date of Notification.	M. or F.	Age.	Remarks.
1	April 16	M.	6	Complete recovery.
2	May 3	F.	1 $\frac{8}{12}$	Died two days after onset. Before notification.
3	June 13	M.	1	Some paralysis of one arm remains.
4	„ 20	M.	14	Died 18 months after onset of disease.
5	Aug. 12	M.	1 $\frac{5}{12}$	Died 24 hours after onset. Before notification.
6	„ 29	M.	12	Almost complete paralysis of both legs and one arm.
7	Oct. 11	M.	1 $\frac{1}{2}$	Died five days after onset. Before notification.
8	„ 15	M.	5	Wasting and paresis of one leg still remains.
9	Nov. 2	M.	10	Wasting and paralysis of one leg remains.
10	Nov. 28	M.	1	Improving, but still has paralysis of left shoulder.
11	Dec. 2	F.	1 $\frac{6}{12}$	Still under treatment and still has paralysis of both legs.

The cases in which permanent paresis or paralysis resulted were as follows :—

No.	Age.	Date of Onset.	Treatment.
3	1 year	May 24	Treated at home.
6	12 years	Aug. 12	Admitted to General Hospital, August 18th. Still in Jaffray Hospital.
8	5 years	Sept. 17	Treated at home and later at Remedial Exercises Clinic. Leg now in irons.
9	10 years	Oct. 13	Admitted to Queen's Hospital at beginning, and still out-patient there.
10	1 year	Nov. 3	Admitted to Children's Hospital, November 17th.
11	6 months	Nov. 3	Admitted to Children's Hospital, December 1st.

#### ENCEPHALITIS LETHARGICA.

Twenty-five cases of this disease were notified during the year 1921, of whom eight died, giving a mortality of 32 per cent. The corresponding figures for previous years since the disease first became notifiable on January 1st, 1919, are as follows :—

Year.	No. of cases reported.			Deaths.	Percentage of deaths to cases.
1919	...	...	...	5	45·5
1920	...	...	...	7	38·9
1921	...	...	...	8	32·0

Details of the cases are shown thus :—

Case.	Date of notification.	M or F.	Age.	H.	Result.					
					Jan.	1	M.	19	H.	
1	Jan. 1	1	M.	19						Died on January 1st (before notification), had been ill for three months.
2	„ 8	M.	36							Complete recovery. No sequelæ.
3	„ 10	M.	25							Died on January 3rd (before notification). Had been ill for five days.
4	„ 22	M.	45							Complete recovery. No sequelæ.
5	„ 22	M.	51	H						Died 18 days after onset.
6	„ 22	F.	22	H						Recovery. Left district afterwards, but believed to have had no sequelæ.
7	„ 24	F.	28	H						Died 11 days after onset.
8	„ 26	M.	12							Recovered, but is very irritable and short tempered.
9	„ 26	M.	51	H						Complete recovery. No sequelæ.
10	Feb. 6	M.	52							Recovery, but still has spasmodic twitching of legs when asleep.
11	„ 14	M.	16	H						Recovery, but has permanent oculo-motor paralysis of one side.
12	„ 16	F.	45	H						Complete recovery. No sequelæ.
13	„ 17	F.	21	H						Recovery. No sequelæ.
14	„ 18	M.	27	H						Recovery. No sequelæ.
15	„ 25	M.	35	H						Died 14 days after onset.

No. of case.	Date of notification.	M. or F.	Age.		Result.
16	Feb. 26	F.	4		Died 12 days after onset.
17	March 2	M.	9		Died 11 days after onset.
18	Mar. 5	M.	45		Complete recovery. No sequelæ.
19	," 23	M.	50	H	Recovery. No sequelæ.
20	April 17	M.	56		Died 2 days after onset.
21	," 17	M.	50		Recovery, but is said to be very irritable and short tempered.
22	May 11	M.	36		Complete recovery. No sequelæ.
23	June 11	F.	27	H	Recovery. Is very irritable and depressed.
24	Sept. 5	M.	4		Recovery, but is very irritable and has some permanent facial paralysis.
25	Oct. 7	F.	51		Complete recovery. No sequelæ.

H—Cases treated in Hospital; others at home.

### BRONCHITIS AND PNEUMONIA.

The appended table gives details for a number of years of deaths from Bronchitis and Pneumonia in Birmingham, and England and Wales :—

### DEATH-RATES FROM BRONCHITIS AND PNEUMONIA.

	BRONCHITIS.		PNEUMONIA.	
	Birmingham.	England and Wales.	Birmingham.	England and Wales.
1901	... 1.80	1.37	1.55	1.15
1902	... 1.64	1.32	1.46	1.41
1903	... 1.46	Average 1.62	1.11	Average 1.22
1904	... 1.76	1.25	1.24	1.44
1905	... 1.43	1.14	1.49	1.28
1906	... 1.38	1.04	1.37	1.30
1907	... 1.49	1.22	1.32	1.22
1908	... 1.47	Average 1.41	1.47	1.35
1909	... 1.47	1.10	1.22	Average 1.19
1910	... 1.24	1.09	1.22	1.23
1911	... 1.24	0.96	1.36	1.30
1912	... 1.25	0.96	1.15	1.11
1913	... 1.26	Average 1.27	1.00	1.04
1914	... 1.20	1.08	1.20	1.02
1915	... 1.26	1.06	1.20	Average 1.02
1916	... 1.37	1.08	1.24	1.10
1917	... 1.29	1.44	1.28	1.08
1918	... 1.01	Average 1.22	1.25	1.06
1919	... 1.22	1.23	1.20	Average 1.14
1920	... 1.39	1.22	0.94	1.65
1921	... 1.17	1.24	1.46	Average 1.06
	... 0.87	1.01	1.10	1.18
		—	1.11	0.99
			1.04	—

There is a progressive decline in mortality from both diseases, the figures for 1921 being about the best on record.

### MALARIA, DYSENTERY AND TRENCH FEVER.

During 1921 the following cases were reported :—

Malaria	...	...	...	14	against	154	in	1920.
Dysentery	...	...	...	12	„	13	„	
Trench Fever	...	...	1	„	0	„		

All of these cases were relapses in the case of men already infected.

## DISEASES OF ANIMALS COMMUNICABLE TO MAN.

(REPORT BY MR. BRENNAN DE VINE, F.R.C.V.S., VETERINARY SUPERINTENDENT.)

## ANTHRAX.

During the year we received notification of two cases of suspected Anthrax. The blood of these cases was examined microscopically, but in neither case was the disease confirmed.

In addition, we were asked by the Henley-in-Arden Police to trace hides of cows which had died in that district suspected of Anthrax, and which they thought had been sent to Birmingham, and by the Superintendent of Police, Pontesbury, Salop. to trace a hide of a cow which died from Anthrax on a farm at Wellington, Salop, which was reported to have been sent to Birmingham.

Since 1918 there has been an increase in Anthrax throughout the country, the number having previously fallen during the war, when there was a reduction in the importation of hides, manures, and foreign feeding cakes. In 1919 there were 234 outbreaks and in 1920 459 outbreaks, and in 1921 515 outbreaks, showing a gradual increase.

## GLANDERS AND FARCY.

During the year there were two suspected cases of Glanders in horses, which on examination were not confirmed. There has been no case of Glanders in the City since 1916.

## FOOT AND MOUTH DISEASE.

On the 1st January, 1921 we were still dealing with the outbreak of Foot and Mouth Disease which occurred at the City Meat Market on 27th December, 1920. During January we had Foot and Mouth Disease at six different centres in the City, four of them being on dairy farms, and all affected and in-contact animals were slaughtered. As a result of that outbreak we had altogether slaughtered in Birmingham 454 animals, 390 of which were affected in varying degrees with Foot and Mouth Disease.

## RABIES.

During the year we have had reported to us 13 suspected cases of Rabies. In 5 cases we forwarded the heads of the suspected dogs to the Ministry of Agriculture for examination, and in a number of cases we kept the suspected dogs under observation in kennels at Holliday Street. There was no confirmed case in Birmingham during the year.

During the year there were 22 outbreaks of Rabies in the country, a reduction from 41 in 1920 and 150 in 1919.

## TUBERCULOSIS.

The Tuberculosis Order of 1914 is still in suspension, and Tuberculosis of cattle is not now classed as a Scheduled Contagious Disease. There was no case dealt with during the year in living animals, except those which were dealt with under the Milk Bye-Laws.

The situation regarding the Diseases of Animals in the City during 1921 has been satisfactory.

## HYDATID DISEASE.

On account of the constant occurrence of cases of death from Hydatids in Birmingham, Mr. Brailsford was asked to make a careful examination of the intestinal tract in a hundred dogs killed at the Dogs Home. The disease in man, in this country, is due to the eggs of the minute tapeworm of the dog (*Tænia echinococcus*) gaining access to the alimentary canal, from which it wanders to various parts of the body before developing into the bladder stage.

Unfortunately, this tape worm is so small as to pass unrecognised if voided by a dog, but the seriousness of the disease in man warrants a careful examination of dogs kept in, or near, the homes of patients.

Mr. Brailsford's report is as follows:—

JOHN ROBERTSON, Esq., C.M.G., M.D.,  
MEDICAL OFFICER OF HEALTH.

September 13th, 1921.

Dear Sir,

I beg to report that I have now completed 101 post-mortem examinations on stray dogs killed at the Dogs Home.

Sixty-five of these dogs were found to be infected with tapeworms, but *Tænia Echinococcus* was absent from them all. In twenty-seven dogs, the lumen of the gut was packed with numerous tapeworms of the Dipylidium type, while in a few only one or two worms were present.

The worms found included:—

Dipylidium Caninum	...	...	...	...	(Cystic stage in dog flea.)
<i>Tænia Pisiformis (Serrata)</i>	...	...	...	...	(Cystic stage in rabbit.)
<i>Tænia Hydatigena (Marginata)</i>	...	...	...	...	(Cystic stage in sheep and pigs.)
<i>Multiceps Serialis (Cœnous Serialis)</i>	...	...	...	...	(Cystic stage in rabbit.)
<i>Cœnous Serialis</i>	...	...	...	...	(Cystic stage in sheep.)
Ascarides	...	...	...	...	
Uncinaria	...	...	...	...	

The type of dogs examined included :—32 Fox Terriers, 20 Mongrels, 13 Irish Terriers, 9 Airedales, 6 Spaniels, 6 Cross Sheep, 5 Welsh Terriers, 3 Collies, 1 Pomeranian, 1 Retriever, 1 Bull Terrier, 1 Manchester Terrier, 1 Greyhound, 1 Scotch, and 1 Whippet.

No species was found to be free from Tapeworm.

In addition, I have investigated six cases of hydatid disease which have been found at operations at the General Hospital during the past six months.

They were :—

Hydatid Cyst of Liver	...	...	...	Recovered.
Hydatid Cyst ulcerating into Bladder	...	...	Died.	
Hydatid Cyst of Liver	...	...	...	Recovering.
Hydatid Cyst of Liver	...	...	...	Recovering.
Hydatid Cyst of Liver and Carcinoma	...	...	Died.	
Hydatid Cyst of Kidney	...	...	...	Died.

In all these cases, the history showed that there had been every possibility of infection from a dog. In only one case could the suspicious animal be obtained for examination. Four of the others had died, and the other the owner refused to have destroyed. In this latter case, dog excreta was present on the floor of the living room at the time of my visit, but the dog was owned by a tenant of another house in the courtyard.

The one dog obtained was found to be infected with two types of tapeworm, but *Tænia Echinococcus* was absent at the time.

The probable reason for non-discovery of the *Tænia Echinococcus* in the dogs examined is that all the dogs belonged to people living in the City and would have little chance to become infected, as very little slaughtering of food animals takes place outside the City Abattoir, from which all dogs are rigidly excluded. One would expect to find dogs infected in those districts with private slaughterhouses and where offal is spread over fields for manure.

I am, Sir,

Yours obediently,

JAMES F. BRAILSFORD.

#### CITY HOSPITALS.

Owing to the decline in Scarlet Fever cases it was possible to close Lodge Road Hospital in June, 1921. The total number of cases treated at the City Hospitals during the year was as follows :—

##### SCARLET FEVER.

		1921.	1920.
Under treatment at beginning of year		509	770
Admitted during year	...	2,064	3,652
Discharged	...	2,188	3,824
Died	...	38	89
Remaining at end of year	...	347	509

##### DIPHTHERIA.

		1921.	1920.
Under treatment at beginning of year		274	170
Admitted during year	...	1,300	1,376
Discharged	...	1,269	1,119
Died	...	107	153
Remaining at end of year	...	198	274

These figures apply to the fifty-two weeks ending December 31st. In a certain number of cases the diagnosis had to be revised after admission to hospital.

#### REPORT ON CITY HOSPITAL, LITTLE BROMWICH.

(By E. H. R. HARRIES, M.D., D.P.H., MEDICAL SUPERINTENDENT.)

I beg to submit to you a report upon the work of this Hospital for the year ending December 31st, 1921. The chief diseases admitted have been Scarlet Fever and Diphtheria. The figures are as follows :—

##### Scarlet Fever.

Remaining December 31st, 1920	...	...	...	...	250
Admitted during year 1921	...	...	...	...	1,582
Discharged	...	...	...	...	1,493
Died	...	...	...	...	24
Remaining December 31st, 1921	...	...	...	...	315

*Diphtheria.*

Remaining December 31st, 1920	...	...	...	...	269
Admitted during year 1921	...	...	...	...	1,301
Discharged	...	...	...	...	1,264
Died	...	...	...	...	108
Remaining December 31st, 1921	...	...	...	...	198

*Other Diseases.*

One case of Erysipelas and five cases of Measles were admitted as such—all recovered. This gives a total of 2,289 cases admitted during the year.

The figures for Scarlet Fever and for Diphtheria are subject to the following corrections for revised diagnoses. Of the total number admitted for Diphtheria 82 were actually suffering from some other condition. 29 of these latter cases proved fatal, 11 of them from severe types of Scarlet Fever. This makes the nett number of admissions for Diphtheria 1,219, and the nett deaths 79, which is equivalent to a death-rate on the revised admissions of 6·4 per cent.

Of the cases admitted as Scarlet Fever 80 were found to be suffering from conditions other than Scarlet Fever. This number has, therefore, to be subtracted from the total admissions, but on the other hand the 11 fatal cases of this disease sent in as Diphtheria have to be added to the total. Of the 24 fatal cases sent in as Scarlet Fever 8 died of conditions other than this disease. The corrected figures, therefore, become—admissions 1,513 and deaths 27, which gives a death-rate, calculated on the corrected admissions, of 1·1 per cent. This low death-rate is an indication of the mildness of type of the cases received.

Turning again to the Diphtheria figures, it is found that of the gross total of deaths (108) 53 occurred in the first quarter of the year. A number of cases sent in during this period as cases of Laryngeal Diphtheria were in reality cases of Measles of a severe type, with initial Laryngitis, and subsequent Bronchopneumonia.

Diphtheria during the first quarter of the year was of a very bad type. This was particularly noticeable in February. Numbers of cases coming in that month were so overwhelmed from the effects of Diphtheria toxin that the response to very large doses of antitoxin was in many cases unsatisfactory. By the end of March the number of cases of Diphtheria in Hospital had reached the very high total of 419.

After the first quarter of the year, although the cases admitted were still very numerous, there was a perceptible decline in clinical severity. Cases received during the last quarter of the year under consideration were markedly milder than those admitted during the first three months of the year, and during the last three months of the year preceding (1920).

*Schick Test.*—During the year a large amount of work has been done by the Medical Officers on the Schick Test for susceptibility to Diphtheria. Throughout we have had the kind co-operation of Dr. R. A. O'Brien, of the Wellcome Physiological Research Laboratories, in the supply of toxin for the performance of the test.

As a result of a large number of observations I am convinced of the reliability and value of the test in Fever Hospital practice, provided always that the toxin is obtained from a reliable source and is fresh; that a control test is done in every case, and that due regard is paid to other details of technique.

We have been able by means of the Schick Test very considerably to shorten the stay of many adults sent in who, although carrying the germs of Diphtheria as evidenced by positive cultures, were yet in no danger of acquiring the disease as distinct from carrying the germs. It is unnecessary to administer anti-toxin to these non-susceptible cases. As soon as the “carrier” state can be cleared up they are ready for discharge from Hospital.

The problem of clearing Diphtheria carriers has also been the subject of a considerable amount of work during the year. Most of the usual methods have been tried and compared. In addition, careful records were made of treatment with stock vaccines. None of the methods employed were found to be reliable in any given case. Fortunately, the greater number of cases of clinical Diphtheria spontaneously cease to carry fairly rapidly, and there is no difficulty in getting negative swabs by the time the patient is clinically fit to return home. A small proportion, however, prove obstinate. The persistent carrier state in these patients is very frequently dependent upon unhealthy or abnormal conditions of the throat and nose which encourage the continued growth of the diphtheria bacillus. Surgical measures are undoubtedly indicated in many of such cases. Apart from this class of case we find that abundant fresh air and the wearing of gauze masks by diphtheria convalescents while in the wards are the best means of terminating the carrier state.

Negative swabs are obtained much more rapidly in summer than in winter. This is closely connected with the fact that in spring and summer the patients spend most of the time in the fresh air—many of them sleeping outside.

*Bed Isolation.*—This system of barrier nursing was referred to in my report to you of last year. The bed isolation ward has continued to be of great service throughout the year. It has to be recorded, however, that we have not been uniformly successful in preventing spread from cases of Chicken-pox admitted during the incubation period or early eruptive stage. Cases of Chicken-pox in either of these stages are no longer admitted to this ward. Chicken-pox in the late scabbing stage can safely be nursed in such a ward.

I should like to express my appreciation of the loyal assistance of Dr. Olga Payne and Dr. Jane Bamford, especially during the Diphtheria epidemic. To them also is due the credit for the large amount of work undertaken on the Schick test, and methods of treating Diphtheria carriers.

My thanks are also due to the Matron and the Nursing Staff for their co-operation during a very difficult year. I am glad to be able to record that we are now getting a much better class of entrant as Probationer Nurses than has been the case up till recently.

I should like to express my indebtedness to the Committee for their support throughout the year.

### BACTERIOLOGICAL WORK.

The following is the Annual Return made to the Public Health Committee by the City Bacteriologist :—

		1st quarter.	2nd quarter.	3rd quarter.	4th quarter.	Total.
Diphtheria Swabs	...	1,406	838	850	1,108	4,202
Sputum	...	614	595	454	458	2,121
Wassermann	...	88	86	83	93	350
Gonorrhœa	...	19	22	19	34	94
Spirocheates	...	—	1	1	3	5
Gono. Fixation Test	...	—	1	—	—	1
Widals	...	11	—	20	144	175
Fæces	...	19	15	52	177	263
Waters	...	48	49	64	63	224
Milks (Tuberculosis)	...	—	—	30	51	81
Milks (General Bacteria)	...	—	94	394	—	488
Shell Fish	...	—	—	—	9	9
Miscellaneous	...	28	40	10	81	159
Totals	...	2,233	1,741	1,977	2,221	8,172

### DISINFECTION.

The importance attached to disinfection after certain infectious diseases is now much less than it was in former years. It is the general experience that exposure to light and air quickly kills the infection of measles, whooping cough and probably also the infection of many other diseases.

It is still, however, necessary to disinfect after Scarlet Fever, Diphtheria, Enteric Fever, Tuberculosis and some other infections. There is a demand without much evidence of its value for disinfection after cases of open cancer.

The disinfecting staff carried out the following work during the year :—

Houses disinfected after Scarlet Fever	...	...	...	3,041
Diphtheria	...	...	...	1,381
Enteric Fever	...	...	...	38
Tuberculosis	...	...	...	2,545
Other diseases	...	...	...	181

From these houses bedding and other articles were removed for disinfection by steam at high pressure or at low pressure or by formaldehyde gas as follows :—

Beds	...	4,752	Bolsters	...	...	1,660
Mattresses	...	3,301	Pillows	...	...	6,321
Counterpanes	...	2,372	Garments	...	...	4,596
Blankets	...	4,744	Boots	...	...	43
Sheets	...	1,336	Carpets	...	...	93
Other articles	...	4,696				

In several of the Voluntary Hospitals of the City disinfection was carried out by the Health Department staff during the year.

### HOUSING.

Prior to 1908 there were from 3,000 to 4,000 houses built every year, and rather more than 7,000 marriages each year. At that time the average annual increase in the population was 8,113. In 1910 there was a drop in the number of new houses to 2,030

and in 1911 to 1920. The number of new houses, marriages and increase in population are set out in the following statement:—

Year.	New houses built.	Marriages.	Average increase in population.
1912	... ...	1,107	6,788
1913	... ...	1,531	7,245
1914	... ...	1,396	7,488
1915	... ...	631	9,975
1916	... ...	487	8,047
1917	... ...	341	7,428
1918	... ...	10	7,770
1919	... ...	45	9,115
1920	... ...	651	7,527
1921	... ...	1,396	7,307

During the past ten years no information is available as to the number of dwelling houses demolished to make way for commercial buildings, or other causes. During certain years the number was considerable.

The census of 1921 shows that since the previous census there were 79,236 persons added to the City population. The new houses added would give accommodation for about 34,000 persons at  $4\frac{1}{2}$  per house. This calculation ignores the fact that during the same period there were many houses demolished and that in 1912 there was already a house shortage.

From the above figures it will be realised that the new house accommodation in Birmingham is very far below what it ought to be in order to accommodate the continuously growing number of inhabitants.

The cause of this shortage is well known. It is doubtful, however, whether there is sufficient appreciation of the horrible conditions under which many of the overcrowded tenants have to live. As is always the case, these are the poorest and often the most thriftless members of the community. Many of them are out of work, they have no rent books to produce as evidence of their reliability as tenants, and many of them have large families. It is not an uncommon occurrence to find a whole family living and sleeping in one of the small bedrooms of a Birmingham cottage. At the present time the Public Health Department is practically helpless in dealing with these cases.

But, in addition to the people who are living under these very overcrowded conditions, there are a large number of tenants who are living in the back-to-back slum houses of the City, who are now sufficiently educated to desire a house with a decent environment and better accommodation. The house problem for Birmingham, therefore, is not only a very urgent one, but is an exceedingly difficult one.

The following figures give the statistics required by the Ministry of Health in the form desired, and show approximately what is being done in the direction of repairing dwelling houses.

#### Number of new houses erected during the year:—

(a) Total ... ...	...	...	...	...	...	...	...	...	1,396
(b) As part of a Municipal Housing Scheme	...	...	...	...	...	...	...	...	970

#### 1. Unfit dwelling houses.

##### Inspection:—

(1) Total number of dwelling houses inspected for housing defects (under Public Health or Housing Acts), or affected thereby ...	52,243
(2) Number of dwelling houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910 ...	1,295
(3) Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation ...	20
(4) Number of dwelling houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation ... ... ... ...	23,657

#### 2. Remedy of defects without service of formal notices.

##### Number of defective dwelling houses rendered fit in consequence of informal action by the Local Authority or their Officers (*i.e.*, by preliminary notices) ... ... ... ... ... ...

20,715

## 3. Action under Statutory Powers.

## A. Proceedings under Section 28 of the Housing, Town Planning, etc.

Act, 1919 :—

(1) Number of dwelling houses in respect of which notices were served requiring repairs ... ... ... ... ...	34
(2) Number of dwelling houses which were rendered fit :—	
(a) By owners ... ... ... ... ...	24
(b) By Local Authority in default of owners ... ...	2
(3) Number of dwelling houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close ... ... ... ... ...	0
B. Proceedings under Public Health Acts.	
(1) Number of dwelling houses in respect of which notices were served requiring defects to be remedied ... ... ...	2,939
(2) Number of dwelling houses in which defects were remedied :—	
(a) By owners ... ... ... ...	2,600
(b) By Local Authority in default of owners ... ...	0
C. Proceedings under Sections 17 and 18 of the Housing, Town Planning, etc. Act, 1909 :—	
(1) Number of representations made with a view to the making of Closing Orders ... ... ... ...	20
(2) Number of dwelling houses in respect of which Closing Orders were made ... ... ... ...	20
(3) Number of dwelling houses in respect of which Closing Orders were determined, the dwelling having been rendered fit ...	0
(4) Number of dwelling houses in respect of which Demolition Orders were made ... ... ... ...	1
(5) Number of dwelling houses demolished in pursuance of Demolition Orders ... ... ... ...	0

## GENERAL SANITARY INSPECTORS' WORK.

The work carried out by the Sanitary Inspectors during the year was satisfactory, as will be seen by the return below.

The small house property in the City is gradually being brought up to a better standard of repair as the result of cheaper labour and better financial return on such property.

Many owners and agents, however, object very strongly to carry out necessary repairs to houses where they have undesirable tenants, such as two or more families living in one house or where the tenant has let off a room or two and is receiving as much, and in many instances more, for these rooms than the owner is receiving for the whole house. The owners desire in these cases to obtain vacant possession, but, owing to the shortage of houses and the restrictions of the Rent Acts, cannot do so. I am afraid this will cause further trouble as soon as the Rent Act is repealed.

Nearly 1,000 tests were applied to drains, necessitating the entire re-laying in many instances.

During the latter part of the year Section 28 of the Housing and Town Planning Act was successfully put into operation to obtain the painting and papering of some very dirty houses, and in addition to this, some hundreds of certificates under the Rent Acts have been granted to tenants to enable them to have their houses put into a reasonable state of repair.

About 10,000 complaints were received from the public during the year, 1,677 relating to defective water closets, 1,547 to obstructed drains, 1,033 to leaky roofs and spouting, 437 to water in cellars, 4,864 to general sanitary defects.

The number of visits paid by Inspectors for various purposes and the number of notices served for defects, etc., are set out below :—

Year.		Number of visits paid by inspectors.	Number of defects for which notices were served.
1917	...	94,860	33,419
1918	...	95,036	27,596
1919	...	111,379	56,611
1920	...	113,315	60,802
1921	...	119,147	62,497

It will be gathered from the above that the staff have been actively at work during the year. Details of their work are given on next page.

## No. of visits and revisits paid :—

Houses inspected under Housing Regulations	...	...	1,206
Revisits paid under Housing Regulations	...	...	612
Infectious Diseases	...	...	11,761
Nuisances or Complaints	...	...	33,420
Work ordered	...	...	41,659
Work in progress	...	...	14,737
Inspection of Dirty Courts	...	...	2,941
Manure Receptacles	...	...	931
Smoke or Water Tests	...	...	931
Tents, Vans and Sheds	...	...	110
Offensive Trades	...	...	20
Ice Cream Vendors	...	...	1,536
Rats Order	...	...	580
Calls on Owners or Agents	...	...	4,736
Other Purposes	...	...	3,967
Total	...	...	119,147

## Nuisances, etc., reported :—

Houses to be disinfected after Scarlet Fever	...	3,041
"    "    "    Diphtheria	...	1,381
"    "    "    Typhoid Fever	...	28
Repairs to Houses	...	25,163
Houses to be cleansed	...	3,672
Houses to be provided with better ventilation	...	61
Houses to be provided with separate water supply	...	44
Cases of overcrowding to be remedied	...	31
Houses to be provided with Damp Courses	...	178
Water to be removed from Cellars	...	467
Spouting to be repaired or disconnected	...	4,930
Rain Water Cisterns to be disconnected or abolished	...	263
Ashpit Privies to be converted to Water Closets	...	213
Pan Privies to be converted to Water Closets	...	207
Privies and Closets to be limewashed	...	263
Water Closets to be repaired or reconstructed	...	4,083
Additional Water Closets to be provided	...	21
Ashplaces to be repaired or limewashed	...	611
Soilpipes to be repaired or removed	...	59
Urinals to be put in order or closed	...	72
Drains to be relaid or repaired	...	1,233
Drains to be opened and cleansed	...	7,161
Gully Traps to be provided	...	313
Interception Traps to be provided on main drains	...	55
Premises to be supplied with additional drains	...	260
Drains in cellars to be disconnected or abolished	...	17
Sink Bend Pipes to be repaired or affixed	...	1,324
Sanitary Sinks to be provided	...	475
Yards to be paved	...	89
Yards to be repaired	...	747
Courts or Yards to be cleansed by Tenants	...	173
Houses to be cleansed by Tenants	...	69
Wash Houses to be repaired or limewashed	...	1,331
Keeping of fowls to be discontinued	...	54
Nuisances from swine and swine stybes abated	...	55
Accumulations of rubbish, manure, etc., to be removed	...	273
Manure receptacles to be provided or repaired	...	57
Dangerous premises to be reported to City Surveyor's Department	...	962
Defective Fittings to be reported to Water Dept.	...	1,805
Other Work to be done	...	1,256
Total	...	62,497

## SANITARY NOTICES ISSUED.

Preliminary notices	...	...	...	...	17,084
Reminders	...	...	...	...	2,168
Statutory notices	...	...	...	...	1,630

## RATS ACT.

The ordinary work under the above Act has been carried out by the District Inspectors who have visited premises likely to be infested and have given advice and assistance. In addition to the ordinary work, a " Rat Week " was suggested by the Ministry of Agriculture and was held from October 31st to November 5th. Newspaper advertisements and paragraphs were made use of. Handbills were distributed to Shops, Food Stores, Railway Warehouses, etc. On November 23rd to December 8th, an intensive campaign was commenced on the Central Markets area, and as a result a great many rats were got rid of by trapping, ferreting and poisoning and by effectually sealing up all the rat runs in the neighbourhood.

## COURTYARDS.

The staff of Court Cleansers (12 men and a foreman) carry out the work of Cleansing Courtyards, Ashbin Sheds, Water Closets, Drains, etc. They also, at the request or default of owners strip and limewash ceilings and walls of houses where infectious disease has occurred. The work done last year was as follows:—

Courts cleansed (paid)	...	...	...	...	12,671
Courts cleansed (free)	...	...	...	...	9,764
Houses stripped	...	...	...	...	162
Water closets inspected	...	...	...	...	103,407
Water closets opened	...	...	...	...	9,296
Water closets cleansed	...	...	...	...	47,670
Pan privies cleansed	...	...	...	...	56
Sheds washed	...	...	...	...	28,116
Drains cleansed	...	...	...	...	145,564
Drains opened	...	...	...	...	5,542

There are two special Courtyard Inspectors whose duty it is to report all dirty tenants, who fail to keep their water closets, outhouses, passages and drains in the courtyards in a clean condition, so as to enable notices to be served without delay. They found the following conditions:—

W.C.'s locked up at time of visit	...	...	...	...	63,031
W.C.'s not locked	...	...	...	...	91,369
W.C.'s found obstructed	...	...	...	...	3,113
W.C.'s found dirty	...	...	...	...	41
Defective W.C.'s reported	...	...	...	...	759
Obstructed drains reported	...	...	...	...	257
No. of defective ashbins reported	...	...	...	...	8,670
Other defects reported	...	...	...	...	514

## COMMON LODGING HOUSES.

There were on December 31st 31 registered common lodging houses in the City. These houses had beds for 2,150 lodgers. The average number of lodgers found occupying the houses was 1,612 persons.

There were 27 lodging houses with 2,034 beds for men only, and 4 lodging houses with 116 beds for women only.

To these lodging houses 1,223 visits were paid by day and 131 visits were paid by night.

A great many minor defects were found and put right by notice to the landlord. These consisted of dirty or defective w.c's, dirty or defective washing places, dirty or insufficient bed-clothing, and similar conditions.

The total number of these defects was 3,947.

## HOUSES SUB-LET IN LODGINGS.

Owing to the general increase of rents the existing bye-laws had become inadequate in many cases as there is a clause in them limiting their application to houses below a

certain rental. Application was therefore made during the year to the Ministry of Health for an amended set of bye-laws. These have now been approved and will be put into operation. In the new bye-laws the exemption clause has been omitted. The regulations will, however, be applied to the same class of houses as before. Certain new powers provided under the Housing and Town Planning Act of 1919 have also been incorporated which will help in the proper supervision of these houses.

It is true to say that the sub-let houses are by far the most difficult to keep in a reasonably hygienic condition. Most of the houses which are farmed out in rooms, are so old that they could not be let as single houses. The class of tenants who occupy them are in poverty or are of the thrifless class, and both these classes are not acceptable tenants for ordinary cottage property. They seldom own any furniture or effects, most of them are destructive. The business of farming out these houses pays the "farmer" very well. I had an enquiry made during the year in regard to the prices paid by the "farmer" and the prices received for the rooms, with the following results:—

No. of houses visited	...	...	...	...	...	492
No. of rooms let (furnished)	...	...	...	...	...	1,352
No. of rooms un-let	...	...	...	...	...	142
Paid by "farmer" for rooms (weekly)	...	...	...	...	£211 19 11	
Paid to "farmer" for rooms (,,)	...	...	...	...	£477 18 0½	

No. of rooms let unfurnished     ...     ...     ...     ...     ...     57

In the above lettings, there were:—

787 one-room tenants.	Average weekly rent, 7/3 for one room.
285 two rooms tenants.	"        "        8/- for two rooms.
147 three-rooms tenants.	"        "        9/2 for three rooms.

The house farmers according to the above statement made a profit of 125 per cent., but this result would entail a small outlay for furniture, etc.

During the year 5,338 visits were paid to these sub-let houses, of which there were 487 on the register. These houses had accommodation for 3,974 persons. Twelve new houses were registered and two closed during 1921. The 487 houses contained 1,932 rooms, i.e., 4 rooms per houses. Of these rooms, 917 were let singly and 478 as two or more rooms.

A great many insanitary or objectionable conditions were found during systematic visitation, as shown below:—

Overcrowding	...	...	...	...	...	13
Sexes not separated	...	...	...	...	...	6
Repairs to houses	...	...	...	...	...	109
Rooms not swept daily	...	...	...	...	...	35
Passages not swept	...	...	...	...	...	2
Stairs not swept	...	...	...	...	...	4
Houses to be cleansed (walls and ceilings)	...	...	...	...	...	349
Drains, etc., obstructed	...	...	...	...	...	75
Water-closets to be repaired	...	...	...	...	...	84
Windows not opened	...	...	...	...	...	9
Rubbish removed from yards and cellars	...	...	...	...	...	26
Ashbins to be provided	...	...	...	...	...	23
Water taps and pipes repaired	...	...	...	...	...	16

#### CANAL BOATS REPORT.

THE COUNCIL HOUSE,  
BIRMINGHAM,

February 1st, 1922.

GENTLEMEN,

As required by Section 3 of the Canal Boats Act, 1884, I beg to submit to you the annual report of the work done by this Department during the year 1921 under the Canal Boats Acts, 1877 and 1884, and the Regulations under these Acts.

The Canal Boat Inspector for the City is Inspector G. W. H. Childs, who, in addition to these duties, is also Inspector of Common Lodging Houses in the City. His salary for the joint appointment is 55s. per week and bonus, together with uniform and cycle allowance.

## INSPECTION OF BOATS.

During the year 1921, the number of boats inspected on the waterways was 1,037, and the periods during which these inspections were made were as follows :—

During the first quarter of the year 252 boats were inspected.

.. .. second ..	285	"	"	"
.. .. third ..	262	"	"	"
.. .. fourth ..	238	"	"	"
Total ...	1,037			

The 1,037 boats inspected were registered to carry  $3,311\frac{1}{2}$  persons, and when inspected were found to be occupied by 1,224 men, 773 women, and 817 children, equivalent to a total of  $2,541\frac{2}{3}$  adults.

The following table shows the number of boats inspected during the preceding five years, showing the number of persons the boats were registered to accommodate and also the number actually occupying them at the times of inspection.

Year.	No. of boats inspected.	Registered to carry (adults).	Actually occupied by :—			Total
			Men.	Women.	Children.	
1917 ...	973	$3,300\frac{1}{2}$	1,144	722	968	2,834
1918 ...	868	3,017	1,027	674	743	2,444
1919 ...	890	$2,975\frac{1}{2}$	1,189	566	553	2,308
1920 ...	930	$3,076\frac{1}{2}$	1,121	676	569	2,366
1921 ...	1,037	$3,311\frac{1}{2}$	1,224	773	817	2,814

Of the 1,037 boats inspected during the year, it was found that 982 or 94.7 per cent. were in good condition and complying in all respects with the Acts and Regulations, while in 55 or 5.3 per cent., various contraventions were found. These are classified as follows :—

Boats found with one contravention each	14.	Total	14
" " two ..	11	"	22
" " three ..	16	"	48
" " four ..	13	"	52
" " five ..	1	"	5
Totals ...	55		141

Complaint notices were served on the owners in every case. During the year certificates were returned by owners, duly signed by Canal Boat Inspectors, showing that 160 complaints had been remedied.

The following table shows the number and character of complaints found and remedied during the year.

Contraventions referred to.	Outstanding and brought forward from 1920.	Found during 1921.	Remedied during 1921.	Carried forward to 1922.
Cabins requiring painting ...	13	32	35	10
Cabins requiring repairing ...	13	29	37	5
Cabins dirty ...	2	2	4	—
Cabins leaking ...	10	15	21	4
Marking of boat ...	10	28	33	5
Non-registration ...	1	4	4	1
Not producing certificate ...	1	6	5	2
Certificate not identifying boat ...	1	2	2	1
Overcrowding ...	—	11	10	1
Non-separation of sexes ...	—	12	9	3
Totals ...	51	141	160	32

No legal proceedings have been taken in any case during the year under review.

## REGISTRATION OF BOATS.

During the year 1921 32 boats were registered in Birmingham and five registrations were cancelled, leaving a total of 505 boats in the Birmingham register on December 31st, 1921, as compared with 478 on December 31st, 1920.

The registrations are shown thus :—

New motor boats registered ...	...	...	...	3
New ordinary boats registered ...	...	...	...	3
Ordinary boats re-registered ...	...	...	...	26
				32
Registration cancelled ...	...	...	...	5
Increase ...	...	...	...	27

One re-registration was necessitated by structural alteration, and the remainder by change of ownership. Fifteen of these boats were previously registered at Chester, four at Wolverhampton, and one each at Worcester, Birmingham, Coventry, Brierley Hill and Berkhamstead, and two at places unknown.

The number of boats in the Birmingham register for the last five years has been :—

December 31st, 1917—Boats on Register	...	...	464
", 1918	",	...	465
", 1919	",	...	470
", 1920	",	...	478
", 1921	",	...	505

The 505 boats at present on the register are made up as follows :—

Ordinary Boats	...	...	...	...	...	454
Steamers	...	...	...	...	...	21
Motor Boats	...	...	...	...	...	30

#### INFECTIOUS DISEASES.

On August 9th, 1921, a case of Erysipelas, in a woman, was reported from the boat Rochdale, No. 427, Uxbridge, then in Birmingham, but on arrival of the Inspector the boat had left for Wolverhampton. The Wolverhampton authority were notified of this and a reply was received from them that the patient had been removed from the boat and the cabin disinfected.

On December 29th the cabin of the boat Sultan, No. 1034, Birmingham, was disinfected on account of a woman suffering from Diphtheria having been removed to hospital from the boat at Braunston.

No other cases of infectious disease have been reported from the canal boats during the year.

I am, Gentlemen, your obedient servant,

T. W. BEAZELEY, M.B., D.P.H.,

*Assistant Medical Officer of Health.*

#### MILKSHOPS AND DAIRIES.

In December, 1921, there were 3,839 milkshops on the register of the Public Health Department. A few of these are excellently designed and equipped, but the vast majority are little hucksters' shops where one or more gallons of milk are sold from a bowl in small quantities. These shops were visited by the two milk inspectors on an average about once every eight months, the number of visits for the year being 5,510.

There are 8 dairies on the register and 474 purveyors of milk. To these premises 637 visits were paid.

To the various railway stations where milk is received 115 visits were paid.

The following figures give an indication of the Milk Inspectors' work during 1921 :—

New milkshops registered	...	...	...	...	274
New purveyors registered	...	...	...	...	144
Milkshop transfers	...	...	...	...	369
Milk vessels examined at milkshops	...	...	...	...	11,257
Dirty vessels found at milkshops	...	...	...	...	4
Milk churns examined at stations	...	...	...	...	137
Dirty churns found at stations	...	...	...	...	0
Milkstores limewashed	...	...	...	...	3
Milkshops limewashed	...	...	...	...	65
Sanitary defects found	...	...	...	...	109
Other contraventions	...	...	...	...	19
Cases of infectious disease reported	...	...	...	...	53
Milkshops registrations cancelled	...	...	...	...	115
Purveyors' registrations cancelled	...	...	...	...	82

#### THE DAIRIES, COWSHEDS AND MILKSHOPS ORDERS, 1885-1899.

(REPORT BY MR. BRENNAN DE VINE, F.R.C.V.S., VETERINARY SUPERINTENDENT.)

##### INSPECTION OF COWS AND COWSHEDS IN THE CITY.

There were 142 dairy farms having 276 registered cowsheds, housing 1,890 dairy cows in the City under the supervision of the Veterinary Department on 31st December, 1921. In addition, there are a number of farms where the keeping of dairy cows has been either temporarily or permanently discontinued, but as re-registration is being effected at the present time, only those dairies where dairy cows are actually being kept are included in the above figures for the purpose of this report.

During the year 2,323 visits of inspection have been made to City Dairies and 21 visits to farms outside the City, in connection with the investigation of infected milk.

The health and condition of the cows in city dairies has been good and the cleanliness satisfactory. In a number of cases notice in writing was given to cowkeepers to have their cowsheds limewashed, defective construction of cowbeds remedied, and to keep their cows clean, also to remove manure heaps from the close proximity to the cowshed doors.

During the year 36 cows were found to be affected with catarrhal mastitis and the milk from these cows was prohibited from sale.

At the end of December, 1920 we had an outbreak of Foot and Mouth Disease in the City Meat Markets, and during the month of January there were six other outbreaks at different centres in the city—four of them being on dairy farms, which necessitated the slaughtering of four herds of affected and in-contact animals, among them being 38 milking cows.

With a view to preventing any possibility of spread of Foot and Mouth Disease, dairy inspection was temporarily suspended while Foot and Mouth Disease outbreaks were occurring in the city.

During the year seven farms have changed hands. There was one prosecution for keeping cows in an unregistered shed, the cowkeeper being fined £1.

In 20 cases notices were given to farmers of alterations and repairs required to be done to cowsheds to enable the owners to have their names retained on the register. In every case the necessary repairs and alterations were carried out.

#### INSPECTION OF MEAT, FISH, FRUIT, ETC.

(REPORT BY MR. BRENNAN DE VINE, F.R.C.V.S., VETERINARY SUPERINTENDENT.)

In addition to the Public Abattoir there were 122 private slaughter-houses in the City at the end of 1921, as shown below :—

Registered Slaughter-houses	...	...	...	...	...	70
Licensed Slaughter-houses	...	...	...	...	...	52
						122

The private slaughter-houses in the City, both registered and licensed, which are in continual use, are on the whole kept in a clean, hygienic condition. In some cases we have had to instruct the occupiers to have their premises cleaned, and repaired, and in one case, owing to the dilapidated condition, and insanitary state in which the slaughter-house was kept, the premises have been removed from the register and closed as a slaughter-house.

During the year the Inspectors have regularly visited premises where food is prepared, and inspected food before preparation and also the prepared foods. The following table shows the food preparation places in the City which are visited by the District Inspectors :—

FOOD PREPARATION PREMISES.						
District No.	A-la-Mode Beef.	Sausage.	Pork Pies.	Tripe Dressing.	Fish Frying.	
1	12	18	14	15	...	73
2	10	19	15	15	...	71
3	11	23	17	18	...	96
4	11	21	18	21	...	114
	44	81	64	69	...	354
	—	—	—	—	—	—

For the purpose of inspection, the City is divided into four districts and there is a District Inspector who is responsible for the inspection of meat, fish, fruit, etc., in his district. In addition, there is an Inspector in charge of the Fish and Vegetable Markets, and there are two Inspectors at the Public Abattoir.

During the year they paid the following visits :—

		Visits.
Slaughter-houses	...	10,913
Beef Butchers	...	12,985
Pork Butchers	...	3,840
Fishmongers	...	4,585
Fruiterers	...	6,220
Provision Dealers	...	373
Tripe Dealers, etc.	...	240
Caterers	...	227
Fish Friers	...	1,599
Wholesale Provision Merchants	...	17
A-la-mode Beef Shops	...	1,579
Ham and Bacon Dressers	...	593
Street Hawkers	...	5,726
Inspections by request	...	867
Jam, etc. manufacturers	...	7
Cold Stores	...	300
		50,071

During the year the following animals were slaughtered in the Public Slaughter-house and the meat of these was examined before being submitted for sale :—

	Beasts.	Calves.	Sheep & Lambs.	Pigs.
Total ...	31,127	64,502	187,443	52,519

The amount of food seized or given up voluntarily as unfit for human consumption was as follows :—

*Bad Meat.*

Voluntarily surrendered ...	...	...	...	...	6,245 lots.
Weight destroyed ...	...	...	...	...	315 tons.

*Bad Fish, Poultry, etc.*

Voluntarily surrendered ...	...	...	...	...	3,241 lots.
Weight destroyed ...	...	...	...	...	342 tons.

*Bad Fruit, Vegetables, etc.*

Weight destroyed ...	...	...	...	...	85 tons.
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Of the total amount of meat condemned as diseased, approximately 49 per cent. was condemned for being affected with tuberculosis. There were no prosecutions during the year.

### SHOPS ACTS, 1912, 1913, 1920 and 1921.

The work under these Acts has been carried out, as during last year, by two whole-time inspectors.

The total number of visits paid to shops during the year is shown thus :—

Shops observed without visiting	...	...	...	21,546
Systematic visits to shops	...	...	...	8,904
Re-visits ...	...	...	...	1,458
Special visits ...	...	...	...	560
				<hr/>
	Total	...	...	32,468

The principal provision of the 1912 Act, viz., the early closing of shops for the weekly half-holiday, is now very generally observed, and it has not been necessary to take legal proceedings in any case under this heading during the year.

There were, however, 23 Notices served on shopkeepers for various contraventions of the Act, and these are tabulated as follows :—

For not closing shop at 1 p.m. on the usual half-holiday	...	5
For employing assistants after 1-30 p.m. on the weekly half-holiday	...	2
For not exhibiting notice for exempted goods on the weekly half-holiday closing day	...	10
For not exhibiting notice specifying the day of closing for the weekly half-holiday	...	2
For not exhibiting the assistants' weekly half-holiday list	...	4
		<hr/>
		23

### CLOSING AND EXEMPTION ORDERS UNDER THE 1912 ACT.

The Closing Orders requiring pawnbrokers' and hay and corn dealers' shops to close for the half-holiday on a specified day in each week (Wednesday, or, as an alternative, Saturday, being the day chosen) and the Exemption Orders relieving Grocers' Shops and Photographic Studios from the necessity of closing for a weekly half-holiday, remain in force as before. In addition, a Closing Order for Butchers (other than Pork-Butchers) has been made, and has been in operation since March 2nd, 1921, and this order requires that butchers' shops shall be closed at 8 p.m. on Friday night, and 7 p.m. on all other nights of the week. The provisions of this Closing Order have generally been well observed, but proceedings for contravention were taken in 26 cases, with the following results :—

23 defendants were fined £1 each for a first offence.

1 defendant was fined costs only for a first offence.

2 defendants were fined £5 each for a second offence.

### SHOPS ACT, 1913.

This Act is an amending Act to the Shops Act, 1912, and is applicable only to premises used for the sale of refreshments, regulating the hours of employment, hours of meal-times, and holidays of assistants employed in establishments which adopt it in place of the 1912 Act for these purposes. There are only four establishments in the City at the present time which have adopted the act, as during the previous year.

### SHOPS ACT, 1920.

This Act, which is an extension of the Shops Acts 1912 and 1913, superseded and continued in force until December 31st, 1921, a provision under the Defence of the Realm Regulations, requiring all shops, with certain specified exemptions, to close at 9 p.m. on Saturday, and 8 p.m. on every other day of the week.

Proceedings were taken in nine cases for keeping shops open after the hour allowed by this Act, with the following results :—

- In 5 cases defendant was fined 10/- each.
- In 1 case defendant was fined 5/-
- In 2 cases defendants were fined costs only.
- In 1 case, case was dismissed.

This Act has now been continued under the Expiring Laws Continuation Act for a further period of twelve months till December, 31st, 1922.

### FACTORIES AND WORKSHOPS.

The work falling under these headings includes :—

- (1) The routine inspection of workshops, workplaces and bakehouses.
- (2) The investigation of complaints reported by H.M. Inspector of Factories as occurring in factories and workshops.
- (3) The investigation of any nuisance in relation to factories and workshops which may come from other sources ; and
- (4) The supervision of outworkers.

The defects reported in factories deal principally with the lack of cleanliness or ventilation or insufficiency or unsuitability of the sanitary accommodation, and, in connection with the latter, Section 22 of the Public Health Amendment Act is in force.

The standards adopted are, for the most part, in conformity with the Sanitary Accommodation Order, made in pursuance of Section 9 of the Factory and Workshops Act, 1901, but this Order is not actually in force.

In regard to nuisances in factories, except domestic factories, these are dealt with under Section 1 of the Factories and Workshops Acts, 1901. Other nuisances can be dealt with under the Public Health Act, 1875.

The powers given for the supervision of home work have for their object the prevention of homework being done in dwellings which are dangerous or injurious to the health of the workers themselves, or in premises where there is a dangerous infectious disease. In factories the local authority has no power to deal with conditions which are adverse to the health of the workers, except in so far as they are defined above. In workshops, however, the City Council has power to deal with the low standards of cleanliness and ventilation and overcrowding which are thought by employers and masters to be sufficient.

In order that the work outlined above may be dealt with efficiently and expeditiously a staff of three inspectors, one of whom is a woman, is engaged, who devote the whole of their time to it. The duties of the woman inspector include the keeping of a register of all outworkers and dealing with matters arising therefrom, in addition to the supervision of women's workshops, and the supervision of the sanitary accommodation for women in factories and workshops generally.

During the year 10,881 visits and re-visits were made and 2,827 defects found. A detailed statement of the work done by the inspectors of the Local Authority under the Factories and Workshops Act is set out in the following table.

## FACTORIES AND WORKSHOPS.

## I. INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

(Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.)

PREMISES. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories (including Factory Laundries)	1208	231	—
Workshops (including Workshop Laundries) ... ... ...	6220	343	—
Workplaces (other than Outworkers' premises included in Part 3 of this Report) ... ... ...	335	26	—
Total ... ... ...	7763	600	—
Revisits paid ... ... ...	3118	—	—

## II.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

PARTICULARS. (1)	Number of Defects.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H. M. Inspector. (4)	
Nuisances under the Public Health Acts :—				
Want of cleanliness ... ... ...	1082	1080	—	—
Want of ventilation ... ... ...	23	23	—	—
Overcrowding ... ... ...	5	5	—	—
Want of drainage of floors ... ... ...	9	9	—	—
Other nuisances ... ... ...	577	571	—	—
Sanitary accommodation—				
Insufficient ... ... ...	32	32	—	—
Unsuitable or defective ... ... ...	1036	1031	—	—
Not separate for sexes ... ... ...	63	63	—	—
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (s. 101) ... ... ...	—	—	—	—
Breach of special sanitary requirements for bakehouses (ss. 97 to 100) ...	—	—	—	—
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report) ...	—	—	—	—
Total ... ... ...	2827	2814	—	—

### III.—HOME WORK.

NATURE OF WORK.		OUTWORK RECEIVED FROM EMPLOYERS				OUTWORK IN UNWHOLESALE PREMISES, SECTION 108.				OUTWORK IN INFECTED PREMISES, SECTION 109, 110.					
		Lists received twice in the year.		Sending once in the year.		Prosecutions.		Prosecutions.		Prosecutions.		Prosecutions.			
(1)	(2)	Lists, Contractors (3)	Outworkers, Workmen (4)	Lists, Contractors (5)	Outworkers, Workmen (6)	Lists, Contractors (7)	Outworkers, Workmen (8)	Notices served on Occupiers as to keeping or sending Lists, (9)	Failing to keep or permit inspection of Lists, (10)	Notices served, Instances, (11)	Failing to send Lists, (12)	Notices served, Instances, (13)	Failing to send Lists, (14)	Orders made (S. 110), (15)	Prosecutions (Sections 109, 110) (16)
Wearing apparel—(1) making, etc. (2) cleaning and washing	...	316	823	898	36	85	73	—	—	—	—	—	3	3	
Household linen	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Lace, lace curtains and nets	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Curtains and furniture hangings	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Furniture and upholstery	...	...	...	...	28	172	48	2	17	—	—	—	1	1	
Electro-plate	...	...	...	...	2	4	—	1	—	—	—	—	—	—	
File making	...	...	...	...	2	—	—	3	—	—	—	—	—	—	
Brass and brass articles	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Fur pulling	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Cables and chains	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Anchors and grapnels	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Cart gear	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Locks, latches and keys	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Umbrellas, etc.	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Artificial flowers	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Nets, other than wire nets	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Tents	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Sacks	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Racquet and tennis balls	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Paper, etc., boxes, paper bags	...	...	...	...	20	—	67	7	—	23	—	—	1	1	
Brush making	...	...	...	...	6	—	81	1	—	—	—	—	—	—	
Pea picking	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Feather sorting	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Carding, etc., of buttons, etc.	...	...	...	...	66	56	—	—	—	54	—	—	3	3	
Stuffed toys	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Basket making	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Chocolates and sweetmeats	...	...	...	...	—	—	—	—	—	—	—	—	—	—	
Total	...	...	...	...	440	1055	2290	56	85	171	631	—	8	8	

## IV.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year ...	...	...	4,918
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## V.—OTHER MATTERS.

		Number.
<b>Matters notified to H.M. Inspector of Factories :—</b>		
Failure to affix Abstract of the Factory and Workshop Acts (s.133, 1901)		5
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Acts (s. 5, 1901) ...	Notified by H.M. Inspector ...	369
	Reports (of action taken) sent to H.M. Inspector ...	263
Other ...	...	—
<b>Underground bakehouses (s. 101) :—</b>		
Certificates granted during the year	...	—
In use at the end of the year ...	...	5

## BLACK SMOKE PREVENTION.

The year 1921 was one of considerable difficulty for manufacturers in the matter of smoke prevention. The coal strike caused many coal users to resort to a class of fuel which at other times would not be burned. The subsequent depression in trade caused many to continue the use of inferior fuel during the year, with a result that more black smoke was produced by those factories which were able to keep going.

A very objectionable new feature in steam raising has been the burning of inferior slacks or coal dust by the aid of special forced draught. Although black smoke may not be emitted from these plants, an even more serious nuisance is produced by the emission of grit in such quantities as to get into the dwellings and even into the food and beds of the people living near.

In our new local Act of Parliament, a clause has been introduced, of which the following is the text :—

“ Clause 80. The provisions of Section 91 (Definition of Nuisances) of the Public Health Act, 1875, and of Section 30 (Furnaces, etc., to be constructed so as to consume their own smoke) of the Act of 1883, shall extend and be applicable in respect of the emission from any chimney of any grit or gritty particles as if such grit or gritty particles were smoke arising from furnaces.

“ Provided that this Section shall not apply to any locomotive engine used on the railway of any railway company incorporated by Act of Parliament, nor to any mechanically propelled road vehicle.”

Formerly there used to be four smoke inspectors in Birmingham. During 1921 there were two inspectors engaged in this work, and, unfortunately, for part of the year one of these inspectors was ill and unable to be on duty.

The work done during the year was as follows :—

Total number of observations of one hour's duration made...	3,942
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Cases reported for excessive black smoke :—

Boiler fires ...	...	...	...	...	...	...	86
Boilers and furnaces	...	...	...	...	...	...	20
Furnaces only	...	...	...	...	...	...	40
	Total	...	...	...	...	...	146

Length of black smoke emissions :—

Under 5 minutes in one hour	...	215 instances.
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6 to 10	”	”	”	258	”
---------	---	---	---	-----	---

11 to 15	”	”	”	149	”
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16 to 20	”	”	”	50	”
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21 to 25	”	”	”	56	”
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26 to 30	”	”	”	37	”
----------	---	---	---	----	---

31 to 35	”	”	”	10	”
----------	---	---	---	----	---

36	”	”	”	1	”
----	---	---	---	---	---

39	”	”	”	1	”
----	---	---	---	---	---

41	”	”	”	1	”
----	---	---	---	---	---

43	”	”	”	1	”
----	---	---	---	---	---

44	”	”	”	1	”
----	---	---	---	---	---

## HEALTH VISITORS' WORK, 1921.

(By BLANCHE GARDINER, B.A., SUPERINTENDENT OF HEALTH VISITORS.)

During the early part of the year 1921, the number of Health Visitors (General, Infant Welfare, and Tuberculosis) was practically the same as in the previous year, averaging about 87 (of whom 19 were engaged in general health visiting, 14 in tuberculosis visiting, and the remainder in Maternity and Infant Welfare work), but later three additional voluntary centres, becoming Municipal ones, increased the visiting staff to 93 (or 95 inclusive of the Inspectors of Midwives).

The work done in connection with Tuberculosis, and Infant Welfare, is dealt with elsewhere, but that of the general health visitors is shown to some extent by the following table, which gives also the figures for 1918, 1919 and 1920.

The figures for 1921 are not so strictly comparable as those of the previous ten years, as in the early part of the year, some changes and sub-divisions were made in the groupings, and so deductions made in certain cases might not be correct.

*E.g.:* (1) "Systematic" house inspection for the greater part of 1921 includes also "Other house inspection," which was previously entered as "other visits." So the large apparent increase in the number of "systematic house inspection" is not altogether real.

(2) The number of Country Holiday Inspections appears more in 1921 (than previously), because it includes the *individual* children who were visited, instead of as before, only *groups* of children inspected.

PRIMARY VISITS :—		1918.	1919.	1920.	1921.
Systematic	...	1,870	3,508	3,821	6,697
Births	...	4,891	3,589	2,767	3,151
Ophthalmia Neonatorum	...	103	79	119	6
Diarrhoea Deaths	...	141	44	53	73
Measles...	...	4,756	13,284	6,154	3,825
German Measles	...	352	566	358	90
Pneumonia	...	—	771	1,783	1,138
Chicken-Pox	...	2,087	2,277	3,204	2,395
Whooping Cough	...	3,596	843	2,764	1,758
Mumps	...	5,676	738	698	7,497
Influenza	...	—	1,301	327	134
Epidemic Diarrhoea (and Prevention)	...	—	—	—	1,400
Ringworm	...	19	13	8	1
Scabies	...	1,359	1,153	981	643
Impetigo	...	135	159	224	542
Vermin	...	35	17	42	103
Conjunctivitis	...	26	25	9	83
Unclassified School Cases— <i>e.g.</i> , Colds, Coughs, Sore Throats, Bronchitis, Swollen Glands, Sores, Insufficient Clothing, etc.	...	3,802	3,277	2,833	3,853
Schools	...	1,086	273	255	382
Reported overcrowding	...	13	5	5	0
Health Talks	...	19	25	23	36
Country Holiday Inspections	...	28	21	24	151
Other Visits (not included in above)— <i>e.g.</i> , Cases reported by various Societies, Hospitals, Individuals, etc., Complaints by Householders, Neighbours, etc. Visits to Doctors, Clergymen, etc., etc.	...	9,222	6,253	5,287	3,972
RE-VISITS ...	...	39,216	38,221	31,734	37,930
USELESS VISITS ( <i>i.e.</i> , Out, Removed, etc.)	...	14,200	13,985	15,501	18,920
Grand Total	...	60,341	58,853	52,920	62,721

*Scabies.* The gradual decrease in the number of Scabies cases (reported by the Schools, and visited in the homes), which was noticed in 1919 and 1920, is again evidenced in 1921. Seventy-seven tickets for free baths at the Skin Hospital were given during the year.

*Pneumonia.* The Health Visitors still continued to do useful work, in connection with notified cases of Pneumonia, in that they put the patients (or their relatives) into touch with the various agencies for procuring the help, especially necessary for poverty stricken cases, and in securing as soon as possible, the aid of the District Nurses. 1,138 primary visits were paid to Pneumonia cases, and in approximately 440

instances, the District Nursing Society's Nurses attended. These latter nursed during the year a total of 466 Health Visitors' cases, the additional 26 being 12 Measles, 3 Diarrhoea, 2 Influenza, 1 Cancer, 1 Rheumatic Fever, 1 Wasting Disease, and 6 dressing for Abscesses, etc. (The Health Department pay only for Pneumonia, Whooping Cough and severe Measles.)

*Births and Ophthalmia Neonatorum.* The General Health Visitors (who visit those infants whose births occur outside the Infant Welfare Centre areas), paid 3,151 primary visits (and 3,800 re-visits during the last three quarters of the year) out of a total of 21,869 primary visits and 173,282 re-visits. The decrease in Ophthalmia Neonatorum visits, from 119 (in 1920) to 6 (in 1921) is due to the fact that in the beginning of 1921 Ophthalmia Neonatorum cases were no longer visited by the Health Visitors and Infant Visitors, but by the Inspectors of Midwives.

*The Aged-Poor.* In view of the difficult and yet often most effective work done by the Health Visitors, in dealing with the aged, incapacitated poor (*c.f.* Paper for the Royal Sanitary Institute Congress, Birmingham), it is interesting to note that in the last three-quarters of the year, 167 primary visits and 311 re-visits were paid to these (or to relatives and neighbours on their behalf), generally with very satisfactory results.

*Health of the Staff.* It is with the deepest regret that this year we have to record the death of two of our very valued Infant Visitors, Miss Waterhouse and Mrs. Long, both of whom worked bravely, up to within a few weeks of their death. During the past 12 years we have not lost in this way any of our Visitors; and it should again be emphasised (as in last year's report) that the health of the Health Visitor is of no less importance than that of those whom she visits, and that everything possible should be done, to free her from overwork and worry, as well as from financial stress.

BLANCHE GARDINER, B.A.,  
*Superintendent.*

#### LIST OF ACTS RELATING TO THE PUBLIC HEALTH IN FORCE IN BIRMINGHAM.

(*Statement required by Ministry of Health.*)

##### GENERAL ACTS.

Public Health Act, 1875, Public Health Amendment Act, 1890 (Part III. adopted), Public Health Acts Amendment Act, 1907, Secs. 36, 44, 46, 51, 53, 55, 58, 62, 65. Infectious Disease Prevention Act, 1890, Infectious Disease (Notification) Act, 1889, Housing of the Working Classes Act (Part III. adopted), Housing and Town Planning Act, 1909, Sections 14, 15, 16 and 17, Housing and Town Planning Act, 1919, Sections 26 and 28.

Sale of Food and Drugs Acts, 1875 to 1899, The Margarine Act, 1887, The Butter and Margarine Act, 1907.

Canal Boats Acts, 1877 to 1884, Contagious Diseases (Animals) Act, 1878 (Section 34), Shops Acts, 1912, 1913, 1920, Seats for Shops Assistants Act, 1899, Factory and Workshop Acts, 1891, 1895, 1901, 1907, Midwives Acts, 1902 and 1918, Rag and Flock Act, 1911, The Poisons and Pharmacy Act, 1908, The Notification of Births (Extension) Act, 1915, Blind Persons Act, 1920, Section 2, Municipal Corporations Act, 1882, The Epidemic and Other Diseases Prevention Act, 1883, The Cleansing of Persons Act, 1897, Rats and Mice (Destruction) Act, 1919, Maternity and Child Welfare Act, 1918, Shops Early Closing Amendment Act, 1920 and 1921.

##### LOCAL ACTS.

The Birmingham Corporation (Consolidation) Act, 1883.

The Birmingham Corporation Acts, 1903, 1914 and 1919.

##### BYELAWS AND REGULATIONS.

Lime Kilns, Common Lodging Houses, Nuisances, Tents, Vans, Sheds used for human habitation, Rag Bone and Skin Merchants, Public Slaughter Houses, Private Slaughter Houses (Sunday Slaughter), Private Slaughter-houses, Knacker's Yards.

Good Rule and Government: (8) Offensive Offal through Streets.

Byelaws in respect to Houses let in Lodgings.

Regulations in respect to Common Lodging Houses.

Regulations under Section 17 (7) of the Housing and Town Planning Act, 1909, in regard to underground Rooms, Regulations in regard to Dairies, Cowsheds and Milkshops. Regulations in regard to Cinemas and Picture Houses.

Rules and regulations for conduct and the management of Infectious Hospitals and Sanatoria.

Regulations in regard to Venereal Diseases.

TABLE I.  
Vital Statistics of Whole District during 1921 and previous Years.

Year.	Population estimated to middle of each year.	Births.			Total Deaths Registered in the District			Transferable Deaths.			NET DEATHS BELONGING TO THE DISTRICT.			
		Uncorrected Number.	Number.	Nctt.	Number.	Rate.	7	Non-residents registered in the District.	Residents not registered in the District.	9	Under 1 year of Age.	Number.	Rate per 1,000 Nett Births.	At all Ages.
1	2	3	4	5	6	7	8	9	10	11	12	13	13	13
1901	... 760,989	? 768,757	23,866 24,246	31·4 31·2	14,089 12,973	18·6 16·7	? ?	? ?	4,205 3,503	176 144	13,290 12,650	17·5 16·3		
1902	... 776,604	? 784,532	23,956 24,260	30·9 31·0	12,433 14,047	16·0 17·9	? ?	? ?	3,525 4,346	147 179	12,224 13,882	15·8 17·7		
1903	... 784,532	? 792,540	22,939 23,484	29·0 29·4	12,322 12,983	15·3 16·2	? ?	? ?	3,224 3,682	141 157	11,948 12,737	15·1 15·9		
1904	... 792,540	? 800,631	23,233 23,484	28·8 29·4	12,567 12,782	15·6 15·5	? ?	? ?	3,084 3,124	133 130	12,356 12,596	15·3 15·3		
1905	... 800,631	? 808,803	23,986 23,986	29·1 29·1	12,782 12,573	15·5 15·3	? ?	? ?	2,727 2,727	121 121	12,398 12,398	15·1 15·1		
1906	... 808,803	? 817,060	22,555 22,186	27·4 26·8	12,573 11,200	15·3 13·5	? ?	? ?	2,570 3,298	115 150	11,001 12,623	13·2 15·0		
1907	... 817,060	? 825,400	21,975 22,288	26·1 26·8	12,760 11,200	15·2 13·5	? ?	? ?	2,470 2,470	111 111	12,005 12,005	14·1 14·1		
1908	... 825,400	? 833,826	22,186 22,168	26·1 26·1	12,131 12,131	14·3 14·3	338 338	338 212	3,070 2,470	129 129	12,962 12,962	14·9 14·9		
1909	... 833,826	? 842,337	21,186 22,186	22·186 22,168	12,131 12,131	14·3 14·3	338 338	338 212	3,070 2,470	129 129	12,962 12,962	14·9 14·9		
1910	... 842,337	? 850,947	21,186 23,858	22·186 27·3	12,131 13,116	14·3 15·0	338 362	338 362	3,070 2,839	122 122	13,026 13,026	14·8 14·8		
1911	... 850,947	? 859,644	21,217 23,268	21·217 23·207	12,907 13,115	14·5 14·9	448*	448*	3,070 346	118 118	12,816 12,816	14·4 14·4		
1912	... 859,644	? 882,534	20,663 23,268	23·8 26·4	12,268 13,115	13·7 14·9	603*	603*	2,490 346	118 118	12,081 12,081	13·5 13·5		
1913	... 882,534	? 891,234	21,217 21,187	21·217 23·8	12,907 12,907	14·5 14·5	448*	448*	2,142 2,142	104 104	104 104	14·1 14·1		
1914	... 891,234	? 895,678	20,618 17,681	23·1 19·7	12,268 11,252	13·7 12·5	416 591	416 591	2,142 1,791	104 101	104 101	14·1 14·1		
1915	... 895,678	? 900,000	20,663 17,681	23·1 19·7	12,268 11,252	13·7 12·5	405 569*	405 569*	2,142 1,791	104 101	104 101	14·1 14·1		
1916	... 900,000	? 16,932	20,618 16,840	23·1 19·4	12,268 13,334	13·7 15·4	405 741*	405 741*	2,142 1,674	104 99	104 99	14·1 14·1		
1917	... 16,932	? 16,840	17,681 16,840	19·7 19·4	11,664 12,180	12·9 13·2	585 585	585 405	1,630 1,630	83 84	12,000 12,000	13·0 13·0		
1918	... 16,840	? 19,335	19,468 19,335	19·0 20·9	11,664 12,180	12·9 13·2	588 585	588 585	2,072 1,630	83 84	11,409 12,000	12·6 13·0		
1919	... 19,335	? 19,000	20,000 25,276	27·6 27·6	11,664 11,664	12·9 12·9	333 333	333 333	2,072 1,630	83 84	11,409 12,000	12·6 13·0		
1920	... 25,276	? 910,000	25,276 910,000	27·6 27·6	11,664 11,664	12·9 12·9								
Averages for years 1901-1920		839,076	?	22,336	26·7	12,625	15·1	?	?	2,873	127	12,422	14·8	
1921	... 919,683	22,307	22,134	24·1	10,665	11·6	630	326	1,838	83	10,361	11·3		

Rates in columns 5, 7, and 13 calculated per 1,000 of estimated population.  
Total population at all ages at Census of 1921, 919,438. Area of District in acres, 43,537. Number of occupied houses (from Rate Books), 194,687.

Average Number of Persons per house, 4·7.

\* Including all members of the Military and Naval Forces, whether residents of Birmingham or not.

TABLE II.

Causes of, and Ages at, Death during the Year ending December 31st, 1921.

CAUSE OF DEATH.	AGES.															Males Females	Persons			
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-				
<b>I.—GENERAL DISEASES.</b>																				
Enteric Fever ...	...	—	—	—	—	—	—	—	—	—	1	3	1	—	—	—	3	2	5	
Typhus Fever ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Relapsing Fever ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Malaria ...	...	—	—	1	—	—	—	—	—	2	—	1	1	—	—	—	5	—	5	
Smallpox—																				
(a) Vaccinated ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
(b) Not Vaccinated ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
(c) Doubtful ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Measles ...	...	36	66	22	12	5	11	—	—	1	—	—	—	—	—	—	76	77	153	
German Measles ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Scarlet Fever ...	...	2	10	5	2	3	12	4	—	1	—	1	—	—	—	—	21	19	40	
Whooping Cough ...	...	50	26	5	6	1	5	—	—	—	—	—	—	—	—	—	42	51	93	
Diphtheria ...	...	2	18	6	15	13	53	11	—	2	—	—	—	—	—	—	62	58	120	
Croup ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Influenza ...	...	7	3	2	1	1	2	—	4	1	8	26	16	25	24	12	2	77	57	134
Miliary Fever ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Asiatic Cholera ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Cholera Nostras...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Dysentery ...	...	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	2	—	2	
Plague ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Yellow Fever ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Leprosy ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Erysipelas ...	...	6	—	—	—	—	—	—	—	1	3	2	—	—	2	1	3	12	15	
Other Epidemic Diseases ...	...	—	1	1	1	—	—	—	—	—	—	—	—	—	—	—	3	3	3	
Pyæmia, Septicæmia ...	...	6	—	1	—	1	1	—	—	1	—	—	3	1	1	5	10	15		
Glanders ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Anthrax (Splenic Fever) ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Rabies ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Tetanus ...	...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	1	1	2		
Mycoses ...	...	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	1		
Pellagra ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Beri-Beri... ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Pul. Tuberculosis (not acute) ...	6	5	2	1	2	3	16	61	93	174	203	162	89	28	1	527	319	846		
Acute Phthisis ...	...	—	—	1	1	—	1	2	7	2	7	6	4	1	1	15	18	33		
Acute Miliary Tuberculosis ...	1	2	—	—	2	3	—	—	1	—	1	1	—	—	—	7	4	11		
Tuberculous Meningitis ...	17	9	3	5	6	10	5	3	3	—	—	1	—	1	—	34	29	63		
Tuberculosis (Periton. Intest.) ...	2	5	2	1	—	5	1	5	3	1	—	2	1	—	—	18	10	28		
Tuberculosis (Spinal Column) ...	—	1	—	—	—	1	1	2	1	—	2	3	1	1	—	8	5	13		
Tuberculosis (Joints) ...	—	1	—	—	—	1	2	1	—	—	2	—	—	1	—	6	2	8		
Tuberculosis (other organs) ...	1	1	—	1	—	—	—	1	—	5	4	2	1	—	—	7	9	16		
Disseminated Tuberculosis ...	1	4	1	—	1	—	2	1	—	1	3	2	—	1	—	12	5	17		
Rickets, Softening of Bones ...	1	4	1	1	—	1	—	—	—	1	—	—	—	—	—	6	3	9		
Syphilis ...	37	—	—	—	—	—	2	—	2	1	2	5	1	—	—	31	19	50		
Other Venereal Diseases ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Cancer (buccal cavity) ...	—	—	—	—	—	—	—	—	—	1	3	14	29	15	5	1	64	4	68	
Cancer (stomach, liver, etc.) ...	—	—	—	—	—	—	—	—	—	2	8	51	90	87	35	2	150	125	275	
Cancer (periton., intest., rectum) ...	—	—	—	—	—	—	—	—	—	5	19	30	67	72	28	4	106	119	225	
Cancer (female genital organs) ...	—	—	—	—	—	—	—	—	—	1	2	13	36	31	32	6	—	121	121	
Cancer (breast) ...	—	—	—	—	—	—	—	—	3	18	24	40	22	12	6	—	125	125	125	
Cancer (skin) ...	—	—	—	—	—	—	—	—	—	1	2	4	1	—	2	4	6	10		
Cancer (other organs) ...	—	1	—	—	—	1	—	1	5	3	17	52	49	47	17	3	140	56	196	
Other Tumours (undefined) ...	—	—	—	—	—	1	—	—	—	1	2	1	1	1	—	6	1	7		
Rheumatic Fever ...	—	1	—	—	—	5	3	8	5	2	6	4	2	2	—	22	16	38		
Ch.Rheumatism, Osteo-Arthritis ...	—	—	—	—	—	—	—	—	1	—	1	4	7	7	—	5	15	20		
Gout ...	—	—	—	—	—	1	2	1	3	8	15	15	20	20	20	7	—	8	—	
Scurvy ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Diabetes ...	—	—	—	—	—	1	—	1	2	1	3	8	15	15	20	20	7	39	54	93

TABLE II.—*continued.*

CAUSE OF DEATH.	AGES.															Males	Females	Persons.		
	0-	1-	2-	3-	4-	5	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-				
Exophthalmic Goitre ...	—	—	—	—	—	—	—	1	1	2	6	2	2	2	1	—	3	14	17	
Addison's Disease ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1	
Leucocythaemia, Lymphad'oma	—	—	—	—	—	3	—	1	2	3	3	1	2	1	—	—	10	6	16	
Anæmia, Chlorosis ...	... 1	—	—	—	—	—	—	1	1	2	5	6	7	11	5	1	—	14	26	40
Other General Diseases ...	... 2	—	—	—	—	—	—	—	—	1	2	1	2	1	—	—	5	4	9	
Alcoholism ...	... —	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	2	—	2	
Chronic Lead Poisoning ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Other Poisonings (occupational)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Ditto do. (not occupational)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>II.—NERVOUS SYSTEM.</b>																				
Encephalitis ...	... 1	—	—	—	—	—	—	1	1	2	—	3	—	—	—	—	2	6	8	
Encephalitis Lethargica	... 1	—	—	—	1	—	—	1	—	2	3	1	1	—	—	—	7	3	10	
Cerebro-Spinal Fever ...	... 3	2	—	—	—	—	—	—	—	2	—	—	—	—	—	—	3	4	7	
Acute Polio Encephalitis	... —	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1	—	1	
Meningitis (other forms)	... 11	5	4	2	3	9	4	1	1	3	1	3	4	—	—	—	35	16	51	
Locomotor Ataxy ...	... —	—	—	—	—	—	—	—	—	1	—	4	11	2	—	—	15	3	18	
Acute Poliomyelitis ...	... 1	2	—	—	—	—	1	—	—	—	—	—	—	—	—	—	3	1	4	
Other Dis., Spinal Cord	... —	—	—	—	—	—	1	1	1	1	4	8	13	9	5	—	22	21	43	
Cerebral Haemorrhage, Apoplexy	1	1	1	1	—	—	1	—	2	11	62	114	157	105	18	211	263	474		
Softening of Brain ...	—	—	—	—	—	—	—	—	—	—	—	2	5	2	1	5	5	10		
Paralysis (no specified cause) ...	—	—	—	—	—	—	—	—	—	2	5	11	21	19	1	33	26	59		
General Paralysis of Insane	—	—	—	—	—	—	—	—	4	9	7	1	1	—	—	20	2	22		
Other Mental Alienation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Epilepsy ...	... 2	1	—	—	1	2	2	7	3	4	6	3	5	5	1	1	25	18	43	
Convulsions (5 and over)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Convulsions (under 5) ...	... 70	11	3	—	1	—	—	—	—	—	—	—	—	—	—	53	32	85		
Chorea ...	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1	—	1		
Hysteria, Neuralgia, Neuritis ...	—	—	—	—	—	—	—	—	—	1	2	1	—	—	—	3	1	4		
Other Dis. of Nervous System ...	2	1	—	—	—	2	2	1	1	2	6	12	8	3	2	—	24	18	42	
Diseases of Eyes and Annexa ...	1	—	—	—	—	—	—	—	1	—	—	1	—	1	—	—	2	2	4	
Mastoid Disease ...	... 1	—	1	—	—	1	2	1	—	1	—	1	—	—	—	—	3	5	8	
Other Diseases of Ears ...	... 4	1	—	—	—	3	4	3	3	1	2	1	1	1	—	14	11	25		
<b>III.—CIRCULATORY SYSTEM.</b>																				
Pericarditis ...	... —	—	—	1	—	—	1	1	1	1	—	1	2	1	—	—	3	6	9	
Acute Endocarditis ...	... —	—	—	—	—	3	—	1	5	9	9	6	3	—	1	—	16	21	37	
Valvular Disease ...	—	—	—	—	—	11	9	12	11	33	47	67	98	101	64	2	200	255	455	
Fatty Degeneration of Heart ...	—	—	—	—	—	—	—	—	—	3	3	10	13	5	1	19	16	35		
Other Organic Diseases of Heart	4	1	1	—	—	3	—	3	4	23	21	70	130	202	134	27	307	316	623	
Angina Pectoris ...	—	—	—	—	—	—	—	—	—	—	3	8	9	2	—	16	6	22		
Aneurysm ...	—	—	—	—	—	—	1	—	—	4	8	2	2	3	—	17	3	20		
Arterio Sclerosis ...	—	—	—	—	—	—	—	—	—	4	12	52	63	46	21	113	85	198		
Other Diseases of Arteries ...	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	2	—	2		
Cer. Embolism, Thrombosis ...	—	—	—	—	—	—	—	1	—	4	10	18	24	18	4	39	40	79		
Other Embolism and Throm. ...	—	—	—	—	—	—	—	—	—	2	3	1	—	—	4	2	2	6		
Diseases of Veins ...	—	—	—	—	—	—	—	—	1	2	2	1	1	—	1	—	3	5	8	
Status Lymphaticus ...	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1		
Other Dis. of Lymphatic System	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	2	2		
Other Dis. of Circulatory System	—	—	—	—	—	—	—	—	—	—	—	—	1	2	—	—	3	3		
<b>IV.—RESPIRATORY SYSTEM.</b>																				
Diseases of Nasal Fossæ ...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	1		
Diseases of Larynx ...	... 2	3	1	—	—	1	—	—	—	—	1	—	1	—	—	7	2	9		
Diseases of Thyroid Body ...	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	1	1	2		
Bronchitis ...	... 118	29	5	4	3	—	3	—	—	4	21	53	113	209	197	39	430	368	798	
Broncho-pneumonia ...	... 175	120	15	5	4	15	6	1	2	6	7	18	12	22	11	2	215	206	421	
Lobar Pneumonia ...	... 11	5	1	2	2	8	3	6	4	17	51	47	36	28	11	—	164	68	232	
Pneumonia (type not stated) ...	42	28	7	4	3	10	4	8	8	21	34	37	40	35	14	2	191	106	297	
Pleurisy ...	... 2	4	—	—	—	1	—	—	—	3	2	8	5	5	2	—	21	11	32	
Pul. Cong., Pul. Apoplexy ...	1	—	1	—	1	1	—	1	1	—	—	3	2	9	4	2	13	13	26	
Gangrene of Lung ...	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	1	1	2		

TABLE II.—*continued.*

CAUSE OF DEATH.	AGES.															Males	Fe- males.	Per- sons.	
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
Asthma ... ... ...	—	—	—	—	—	—	—	—	—	1	1	5	9	5	3	—	17	7	24
Pulmonary Emphysema ...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	1
Fibroid Disease of Lung ...	—	—	—	—	—	—	—	—	1	—	1	1	1	1	—	—	5	—	5
Other Dis. of Respiratory System	1	—	—	—	—	—	—	—	—	—	2	2	1	1	—	—	4	3	7
V.—DIGESTIVE SYSTEM.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Diseases of Teeth and Gums ...	2	—	—	—	—	—	—	—	—	—	1	2	—	—	—	—	3	2	5
Other Dis. of Mouth and Annexa	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1	1	2
Diseases of Pharynx, Tonsillitis	1	3	1	—	—	2	3	1	—	—	2	—	2	—	—	—	9	6	15
Diseases of the Oesophagus ...	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	2	—	2
Perforating Ulcer of Stomach ...	—	—	—	—	—	—	2	1	1	4	23	7	12	9	2	—	41	20	61
Inflammation of Stomach ...	19	5	—	1	1	2	2	—	—	2	2	—	5	4	7	2	28	24	52
Other Diseases of Stomach ...	5	—	—	—	—	—	1	—	—	2	1	—	—	2	—	—	6	5	11
Diarrhoea, Enteritis ...	308	59	7	2	4	2	—	—	3	6	9	13	14	8	7	247	195	442	
Ankylostomiasis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Intestinal Parasites ...	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Appendicitis ... ...	—	—	—	—	1	8	12	5	7	8	11	7	11	3	3	—	40	36	76
Hernia ... ... ...	2	2	—	—	—	—	—	—	—	2	1	7	8	13	10	1	18	28	46
Intestinal Obstruction ...	10	1	—	—	1	—	—	—	—	4	5	6	5	4	—	14	22	36	
Other Diseases of Intestines ...	1	—	—	—	—	—	—	—	—	3	2	3	1	—	1	6	5	11	
Acute Yellow Atrophy of Liver	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	1	1	2
Hydatid of Liver ...	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	1	1	2	
Cirrhosis of Liver ...	—	—	—	—	—	—	1	1	—	4	10	11	5	2	—	22	12	34	
Biliary Calculi ... ...	—	—	—	—	—	—	—	—	—	1	3	7	4	1	1	7	10	17	
Other Diseases of Liver ...	1	—	—	—	—	—	—	—	1	—	4	4	1	4	1	—	6	10	16
Diseases of Spleen ...	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	1
Peritonitis (cause unstated) ...	—	—	—	—	1	1	3	—	—	1	4	3	1	—	—	—	5	9	14
Other Dis. of Digestive System	—	—	—	—	—	—	—	—	2	—	1	2	1	—	—	5	1	6	
VI.—GENITO-URINARY SYSTEM.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Acute Nephritis ... ...	1	1	1	1	—	3	—	1	1	—	3	3	2	2	—	—	11	8	19
Bright's Disease ...	—	—	—	—	—	—	2	2	6	11	21	43	57	41	16	1	108	92	200
Chyluria ... ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Dis. of Kidney & Annexa	1	1	—	—	—	—	1	—	—	—	4	4	2	4	—	—	8	9	17
Calculi of Urinary Passages ...	—	—	—	—	—	—	—	3	2	2	—	1	—	—	—	6	2	8	
Diseases of Bladder ...	—	—	—	—	—	—	—	—	2	3	7	10	6	2	—	23	7	30	
Diseases of Urethra, etc. ...	—	—	—	—	—	—	—	—	1	1	4	2	1	—	—	9	—	9	
Diseases of Prostate ...	—	—	—	—	—	—	—	—	—	1	4	17	16	1	39	—	—	39	
Diseases of Male Genital Organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Uterine Haemorrhage ...	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	2	2	
Uterine Tumour ...	—	—	—	—	—	—	—	1	5	2	—	—	—	—	—	—	8	8	
Other Diseases of Uterus ...	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	2	2	
Ovarian Cyst, Tumour ...	—	—	—	—	—	—	—	—	—	—	1	3	—	—	—	—	4	4	
Other Dis. of Female Organs ...	—	—	—	—	—	—	—	1	2	5	—	—	—	—	—	—	8	8	
Diseases of Breast ... ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VII.—THE PUPERAL STATE.	—	—	—	—	—	—	—	—	—	2	—	2	—	—	—	—	—	4	4
Accidents of Pregnancy ...	—	—	—	—	—	—	—	—	2	—	6	4	—	—	—	—	12	12	
Puerperal Haemorrhage ...	—	—	—	—	—	—	—	—	5	1	—	—	—	—	—	—	6	6	
Other Accidents of Childbirth ...	—	—	—	—	—	—	—	1	5	15	5	—	—	—	—	—	26	26	
Puerperal Fever ... ...	—	—	—	—	—	—	—	—	3	7	1	—	—	—	—	—	11	11	
Puerperal Alb'ria & Convulsions	—	—	—	—	—	—	—	—	—	3	1	—	—	—	—	—	4	4	
Phleg. Dolens, Embolism ...	—	—	—	—	—	—	—	—	—	3	1	—	—	—	—	—	—	—	—
Puerperal Insanity ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Puerperal Diseases of Breast ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VIII.—SKIN & CELLULAR TISSUE.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Senile Gangrene ...	—	—	—	—	—	—	—	—	—	—	—	14	13	2	19	10	10	29	
Gangrene (other types) ...	—	—	—	1	—	—	1	—	—	—	1	—	—	—	—	1	2	3	
Carbuncle, Boil ...	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	2	—	2	
Phlegmon, Acute Abscess ...	2	—	1	—	—	2	1	—	1	2	2	2	2	—	—	6	7	13	
Dis. of Integumentary System	13	—	—	—	—	—	—	—	—	—	1	1	3	1	—	11	8	19	

TABLE II.—*continued.*

CAUSE OF DEATH	AGES.															Males	Fe-males	Persons		
	0-	1-	2-	3-	4	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-				
<b>IX.—BONES AND ORGANS OF LOCOMOTION.</b>																				
Diseases of Bones	1	1	—	1	—	2	1	1	—	—	1	—	—	—	2	—	6	4	10	
Diseases of Joints	2	—	—	—	—	1	—	—	—	—	—	—	1	1	—	—	2	3	5	
Amputations	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Other Dis. of Locomotor System	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>X.—MALFORMATIONS.</b>																				
Congenital Malformations	82	4	3	—	—	—	2	—	—	1	1	—	—	—	—	—	50	43	93	
<b>XI.—DISEASES OF EARLY INFANCY.</b>																				
Premature Birth	447	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	247	200	447	
Infantile Debility, Icterus, etc.	214	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	137	77	214	
Other Diseases of early infancy	61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34	27	61	
Lack of Care (under 3 months)	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	—	5	
<b>XII.—OLD AGE.</b>																				
Old Age	...	...	...	—	—	—	—	—	—	—	1	—	—	6	143	316	111	241	336	577
<b>XIII.—EXTERNAL CAUSES.</b>																				
Suicide—																				
By Poison	...	...	...	—	—	—	—	—	—	—	1	1	3	3	—	1	—	4	5	9
By Asphyxia	...	...	—	—	—	—	—	—	—	—	—	—	3	2	—	—	2	3	5	
By Hanging, Strangulation	...	—	—	—	—	—	—	—	—	—	2	2	3	2	5	6	2	18	4	22
By Drowning	...	..	—	—	—	—	—	—	—	—	1	4	3	5	12	3	2	24	6	30
By Firearms	...	...	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	3	—	3
By Cutting or Piercing	...	—	—	—	—	—	—	—	—	—	—	3	5	7	2	1	—	13	5	18
By Jumping from high places	...	—	—	—	—	—	—	—	—	—	—	—	—	2	1	1	—	4	—	4
By Crushing	...	...	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	1
Other Suicides	...	...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
Poisoning by Food	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Acute Poisonings	...	—	—	—	—	—	—	—	—	—	—	—	1	2	—	—	—	2	1	3
Conflagration	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Burns (conflagration excepted)	1	4	—	5	5	5	1	1	2	—	—	1	4	3	3	3	—	15	23	38
Deleterious Gases	19	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	13	8	21
Accidental Drowning	...	...	—	—	2	—	3	2	1	—	—	1	2	—	2	—	10	5	15	
Injury—																				
By Firearms	...	...	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	1
By Cutting or Piercing	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
By Fall	...	...	1	—	—	—	1	—	3	2	2	7	2	10	16	10	4	30	28	58
In Mines and Quarries	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
By Machines	...	...	—	—	—	—	—	1	—	1	1	1	2	—	—	—	5	1	6	
By Other Crushing	...	—	1	2	1	5	10	2	3	2	4	14	7	9	4	3	—	47	20	67
By Animals	...	...	—	—	—	—	—	1	—	—	—	—	—	—	—	—	1	—	1	
Starvation	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Excessive Cold	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Effects of Heat	...	...	—	—	1	—	—	2	—	—	—	—	2	—	1	—	4	2	6	
Lightning	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Electricity	...	...	—	—	—	—	—	—	1	—	—	—	1	—	—	—	2	—	2	
Homicide by Firearms	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Homicide by Cutting or Piercing	...	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	—	2	—	2
Homicide by other means	...	2	—	—	—	—	—	—	—	1	—	—	—	—	—	—	3	—	3	
Fractures (cause not specified)	—	1	—	—	—	—	—	—	—	—	1	1	—	—	—	1	—	3	1	4
Other Violence	...	...	3	—	—	—	—	1	—	2	2	2	—	—	—	1	—	8	3	11
<b>XIV.—ILL-DEFINED CAUSES.</b>																				
Dropsy	...	...	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	1
Syncope (1 year and under 70)	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
Sudden Death (not defined)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heart Failure (1 and under 70)	—	—	—	—	—	—	—	2	1	1	1	6	12	15	9	—	36	11	47	
Other ill-defined causes	...	1	7	2	—	—	1	—	—	—	—	1	1	—	—	—	8	5	13	
Cause not specified	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	...	1838	464	113	79	72	234	140	177	228	494	815	1101	1429	1679	1223	275	5523	4838	10361

TABLE III. Births and Deaths Registered in, or belonging to, each Ward during the Year ending December 31st, 1921.

CAUSES OF DEATH.	CITY												Not Located
	All Saints'	Accock's Green	Aston	Balsall Heath	Buddeston and Nethells	Duddeston	Habberone	Kings'	Ladywood	Lozells	Market Hall	Moseley and Kings' Heath	
Enteric Fever ...	2	5	8	26	3	1	1	1	1	1	2	1	5
Measles ...	1	2	2	6	1	1	1	1	1	1	1	1	40
Scarlet Fever ...	1	1	1	6	3	10	4	1	1	1	1	1	93
Whooping Cough ...	1	1	1	8	3	10	4	1	1	1	1	1	120
Diphtheria, Croup ...	2	8	11	7	4	10	11	3	3	1	1	1	134
Influenza ...	4	11	1	1	1	1	1	1	1	1	1	1	15
Erysipelas ...	1	1	1	56	39	42	29	13	12	11	11	11	890
Pulmonary Tuberculosis ...	24	46	3	1	1	1	1	1	1	1	1	1	63
Tuberculous Meningitis ...	1	1	1	3	1	1	1	1	1	1	1	1	28
Abdominal Tuberculosis ...	1	1	1	1	1	1	1	1	1	1	1	1	54
Other Tuberculous Dis. ...	4	49	40	58	45	41	2	1	1	1	1	1	1020
Cancer ...	27	49	3	2	3	1	1	1	1	1	1	1	38
Rheumatic Fever ...	2	4	4	6	2	1	1	1	1	1	1	1	93
Diabetes ...	1	1	1	2	2	1	1	1	1	1	1	1	10
Encephalitis Lethargica ...	1	1	1	1	1	1	1	1	1	1	1	1	7
Cerebro-Spinal Fever ...	1	1	1	1	1	1	1	1	1	1	1	1	51
Acute Polio-Encephalitis ...	1	1	1	1	1	1	1	1	1	1	1	1	4
Meningitis (other forms) ...	1	1	1	1	1	1	1	1	1	1	1	1	1
Acute Poliomyelitis ...	1	1	1	1	1	1	1	1	1	1	1	1	474
Cereb'l. Haemorr., Apop. ...	8	20	30	19	18	19	12	8	19	16	17	14	85
Convulsions ...	2	2	4	2	1	1	1	1	1	1	1	1	4
Organic Dis. of Heart ...	29	59	45	68	58	42	20	27	33	7	23	22	1113
Arterio-Sclerosis ...	4	8	9	6	6	6	14	7	4	9	2	3	198
Cereb'l Embol., Thromb. ...	2	2	4	1	5	2	4	1	2	2	3	4	79
Bronchitis ...	13	50	42	45	60	19	13	5	10	9	24	27	798
Pneumonia ...	23	44	60	28	70	35	4	3	1	7	39	38	950
Other Respiratory Dis. ...	5	6	11	8	5	3	3	1	1	1	1	1	109
Diarrhoea & Enteritis : Under 2 years ...	9	26	17	15	48	5	4	7	1	2	23	27	367
Two years and over ...	4	2	3	5	5	2	1	1	1	1	1	1	75
Appendicitis, Typhlitis ...	3	2	3	1	1	3	1	1	1	1	1	1	34
Cirrhosis of Liver ...	1	1	1	1	1	1	1	1	1	1	1	1	2
Alcoholism ...	1	1	1	1	1	1	1	1	1	1	1	1	26
Nephritis & Bright's Dis ...	9	8	7	10	12	8	3	8	16	6	10	4	3
Puerperal Fever ...	1	1	2	1	1	1	1	1	1	1	1	1	37
Old Age ...	18	22	28	26	31	14	13	13	17	9	14	9	754
Accidents or Negligence ...	3	3	12	9	18	8	6	4	5	3	13	11	577
Suicides ...	2	5	8	4	3	6	4	5	3	1	8	5	238
Other Causes ...	23	41	47	51	67	49	16	24	42	59	26	45	15
<b>TOTAL DEATHS</b> ...	219	494	512	454	618	376	168	195	280	136	379	403	10361
<b>DEATHS UNDER 1 YEAR</b> ...	39	114	106	56	154	40	17	26	34	14	24	89	1838
<b>BIRTHS</b> ...	628	1095	1213	898	1485	532	382	384	491	333	399	931	22134

TABLE IV.

Deaths under 1 year Registered in, or belonging to, each Ward during the Year ending December 31st, 1921.

CAUSES OF DEATH.	ALL SICKNESS.	Accoks' Green	Aston.	Balsall Heath.	Buddington and Nethells.	Eldgbaston.	Erddigton (North).	Erddigton (South).	Handsworth.	Harborne.	King's Heath.	Market Hall.	Netherton and Kingley's Heath.	Norheald.	Rotton Park	Se. Bartolo.	Se. Mary's.	St. Paul's.	Sally.	Sandwell.	Small Heath.	Soho.	Sparkbrook.	Walswood Heath.	Yardley.	Not Located.	CITY.			
Measles ...	1	2	1	...	6	3	1	...	1	1	2	3	5	1	1	3	...	3	...	1	36	2	50	2	7	...	1	37		
Scarlet Fever ...	...	...	...	...	6	3	1	1	2	...	1	1	3	2	1	1	1	1	1	1	...	...	...	...	...	...	...	...		
Whooping Cough ...	...	7	6	3	...	...	...	...	...	...	...	...	3	3	1	1	1	1	1	1	1	...	...	...	...	...	...	...		
Diphtheria, Croup ...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1	1	1	1	1	1	...	...	...	...	...	...	...		
Influenza ...	...	...	3	...	...	...	...	...	...	...	...	...	1	1	1	1	1	1	1	1	1	...	...	...	...	...	...	...		
Tuberculous Meningitis ...	...	1	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...	...	...	...	...	...	...	...		
Abdominal Tuberculosis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Other Tuberculous Diseases ...	...	...	...	...	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...	...	...	...	...	...	...		
Rickets ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Syphilis ...	...	...	1	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...	...	...	...	...	...	...		
Encephalitis Lethargica ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Cerebro-Spinal Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Meningitis (not Tuber-culous) ...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	...	...	...	...	...	...	...		
Convulsions ...	...	2	1	4	1	3	2	2	1	1	4	1	1	3	2	2	1	1	1	1	1	...	...	...	...	...	...	...		
Bronchitis ...	1	9	11	5	13	1	2	1	1	2	3	1	1	6	4	11	5	8	7	1	2	2	1	2	1	2	1	1		
Pneumonia (all forms) ...	6	14	17	6	17	5	17	5	5	3	12	4	12	1	18	25	11	21	14	6	3	3	3	3	3	3	3	3		
Gastritis ...	1	1	1	1	2	1	2	1	1	2	3	1	1	3	2	1	1	1	1	1	1	...	...	...	...	...	...	...		
Congenital Malforma-tions ...	8	22	11	12	28	5	5	4	3	6	1	2	21	8	17	2	16	22	18	26	6	...	...	...	...	...	...	...		
Diarrhea, Enteritis, etc. ...	1	4	6	5	4	3	1	1	1	2	1	1	1	1	6	2	2	2	3	1	2	1	1	1	1	1	1	1		
Premature Birth ...	14	26	21	7	36	11	7	7	11	7	9	19	16	9	9	6	10	34	31	25	20	19	6	...	...	...	...			
Atrophy, Debility, and Marasmus ...	2	16	13	9	15	4	1	3	1	2	1	1	1	1	1	6	4	3	2	1	2	1	1	1	1	1	1	1		
Atelectasis ...	1	1	...	...	2	...	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Injury at Birth ...	1	...	...	...	2	...	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Neglect (under three months) ...	...	...	1	...	2	...	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Suffocation (Overlying) ...	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Other causes ...	1	5	10	4	6	...	1	3	1	1	5	3	5	2	1	1	6	2	1	1	2	1	2	1	3	2	3	3		
ALL CAUSES ...	39	114	100	56	164	40	17	26	34	14	24	89	65	61	30	16	80	145	117	138	0	55	23	28	36	32	80	15	20	1838

TABLE V.

Cases of Infectious Disease notified during each week of the year 1921.

	Number.	WEEK.		Enteric Fever.	Continued Fever.	Malaria.	Trench Fever.	Smallpox.	Scarlet Fever.	Diphtheria.	Erysipelas.	Pulmonary Tuberculosis.	Other Tuberculosis.	Encephalitis Letargica.	Cerebro-Spinal Fever.	Polio-Encephalitis	Pneumonia.	Puerperal Fever.	Ophthalmia Neonatorum.	TOTAL.	
		Week.	Ending.																		
1	Jan. 3	1921.																			228
2	" 15																				222
3	" 22																				244
4	" 29																				223
5	Feb. 5																				210
6	" 12																				227
7	" 19																				234
8	" 2																				243
9	March 5																				224
10	" 12																				228
11	" 19																				201
12	" 26																				170
13	April 2																				184
14	" 9																				193
15	" 16																				142
16	" 23																				145
17	" 30																				159
18	May 7																				176
19	" 14																				210
20	" 21																				154
21	" 28																				157
22	June 4																				137
23	" 11																				148
24	" 18																				141
25	" 25																				155
26	July 2																				144
27	" 9																				175
28	" 16																				197
29	" 23																				186
30	" 30																				125
31	August 6																				94
32	" 13																				120
33	" 20																				116
34	" 27																				116
35	Sept. 3																				144
36	" 10																				156
37	" 17																				164
38	" 24																				172
39	Oct. 1																				169
40	" 8																				180
41	" 15																				193
42	" 22																				228
43	" 29																				196
44	Nov. 5																				182
45	" 12																				182
46	" 19																				165
47	" 2																				184
48	Dec. 3																				193
49	" 10																				220
50	" 17																				201
51	" 24																				189
52	" 31																				118
	Total ...	26	—	14	1	—	3320	1652	12	289	1969	278	25	9	11	1	1125	105	427	264	

TABLE VI.

Cases of Infectious Disease notified during the Year 1921. Classified according to ages.

DISEASE.	AGES.										Total.								
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
Enteric Fever ...	...	...	...	...	...	1	2	2	1	1	7	4	3	...	...	...	26		
Continued Fever	...	...	...	...	...	...	...	...	...	...	7	2	...	...	...	...	...		
Malaria	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	14		
Trombic Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1		
Smallpox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Scarlet Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
Diphtheria	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3320		
Dysentery	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1652		
Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12		
Pulmonary Tuberculosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	289		
Tuberculous Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1969		
Tuberculosis of Peritoneum and Intestines	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20		
Tuberculosis of Spinal Column	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	34		
Tuberculosis of Joints	...	1	1	1	1	1	2	2	17	6	1	2	1	1	1	1	40		
Tuberculosis of Other Organs	...	1	1	1	1	1	1	1	35	21	11	3	2	1	2	1	85		
Disseminated Tuberculosis ...	...	1	1	1	1	1	1	1	1	32	23	8	6	9	3	2	88		
Encephalitis Lothargica	...	1	1	1	1	1	1	1	1	3	1	2	1	2	1	1	11		
Cerebro-Spinal Fever	...	4	2	4	2	2	1	1	1	1	2	3	3	2	1	1	25		
Poliomyleitis	...	2	4	2	4	2	1	1	1	1	2	2	2	1	1	1	9		
Polio-encephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1125		
Pneumonia	...	79	88	40	32	22	143	38	76	58	152	125	92	49	8	3	3		
Puerperal Fever	...	...	...	...	...	...	...	...	5	30	44	25	1	...	...	...	105		
Ophthalmia Neonatorum	...	427	...	...	...	...	...	...	...	...	...	...	...	...	...	...	427		
Total	...	...	576	279	272	289	366	2599	1278	560	544	952	711	445	250	115	25	3	9264

TABLE VII.  
Cases of Infectious Disease notified during the Year 1921.  
*Classified according to Warao.*

TABLE VIII.

*Temperature of the Air and Ground, Rainfall, Sunshine, and Wind, in each Month of the Year 1921  
Observed at the Birmingham and Midland Institute Observatory, Edgbaston,  
by Mr. A. J. Kelley.*

Month.	TEMPERATURE OF THE AIR.			TEMPERATURE OF THE GROUND.			HOURS OF SUNSHINE.			RAINFALL IN INCHES.			MILES OF WIND.		
	Highest in the shade.		Lowest in the shade.	Mean for the Month.		Maximum at 1 foot deep.	Maximum at 4 feet deep.	Above or below the average.*		1921.		1921.		Above or below the average.*	
	1921.	Above or below the previous highest.*		1921.	Above or below the previous lowest.*			1921.	Above or below the average.*	1921.	Above or below the average.*	1921.	Above or below the average.*	1921.	Above or below the average.*
JAN.	56°	- 2	29°	+ 18	44.4°	+ 6.5	46.6	46.2	- 11	23	- 11	2.38	+ 0.38	20	12334 + 1964
FER.	58	- 4	30	+ 22	40.7	+ 1.9	43.7	46.0	- 1	46	- 1	0.16	- 1.50	3	7281 - 2233
MAR.	63	- 7	29	+ 10	44.8	+ 3.8	45.8	45.5	+ 15	91	+ 15	1.19	- 0.83	17	11105 + 558
APR.	68	- 11	29	+ 13	47.1	+ 1.5	48.3	46.1	+ 41	165	+ 41	1.04	- 0.61	11	9136 - 428
MAY	77	- 5	33	+ 2	53.1	+ 1.1	57.8	50.0	+ 54	217	+ 54	1.40	- 0.71	14	7714 - 1130
JUNE	85	+ 2	42	+ 4	58.5	+ 0.8	64.5	53.0	+ 47	206	+ 47	0.65	- 1.52	8	9167 + 875
JULY	89	+ 1	46	+ 7	66.6	+ 7.6	69.0	57.0	+ 64	219	+ 64	0.66	- 1.69	5	7881 - 425
AUG.	76	- 18	46	+ 5	59.4	-	62.0	56.5	+ 32	117	- 32	3.81	+ 1.01	16	8387 - 92
SEPT.	80	- 11	43	+ 10	58.5	+ 2.8	58.8	55.2	+ 44	154	+ 44	1.06	- 0.76	6	6864 - 1164
OCT.	79	+ 3	32	+ 4	56.0	+ 7.4	58.0	55.0	+ 59	132	+ 59	1.80	- 0.91	9	7511 - 1459
NOV.	59	- 3	26	+ 6	40.2	- 2.4	50.3	52.8	- 4	41	- 4	1.78	- 0.42	10	7718 - 1584
DEC.	56	- 1	27	+ 13	42.9	+ 3.7	46.7	48.0	+ 3	24	+ 3	2.07	- 0.69	13	12096 + 1522

\* In the thirty-four years 1887-1920.

TABLE IX.

Meteorology and Mortality in each week of the year 1921.

No.	WEEK. Ending. 1921.	DEATHS FROM										TEMPERATURE					Hours of Sunshine.	Rainfall in Inches.		
		DEATHS FROM					TEMPERATURE					of the Air.		of Ground						
		of the Air.		of Ground			Highest in Shade.		Lowest in Shade.		Mean of Daily Maxima and Minima.		Highest 4 Feet Deep.		Horizontal Movement of Air in Miles					
		Total Deaths.	Deaths under 1 year.	Deaths 65 and up.	Measles.	Whooping Cough.	Diarrhoea and Enteritis under 2.	Pulmonary Tuberculosis.	Other Forms of Tuberculosis.	Respiratory Diseases.	Highest in Shade.	Lowest in Shade.	Mean of Daily Maxima and Minima.	Highest 4 Feet Deep.	Horizontal Movement of Air in Miles	Hours of Sunshine.	Rainfall in Inches.			
1	Jan. 8	216	27	73	4	—	3	13	1	54	52	34	45	46.2	2,483	1.2	0.42			
2	" 15	205	34	69	5	—	4	18	2	43	56	29	41	46.2	2,902	8.2	0.68			
3	" 22	243	54	68	8	3	4	23	6	38	53	36	45	46.0	3,666	11.0	0.25			
4	" 29	183	41	53	8	3	8	17	4	28	53	39	47	45.9	2,515	2.6	0.14			
5	Feb. 5	219	49	67	7	1	6	18	2	42	49	30	38	46.0	1,779	7.3	0.43			
6	" 12	238	53	61	6	3	4	13	5	71	45	30	38	45.6	1,567	4.7	—			
7	" 19	292	51	91	10	—	3	28	2	68	51	34	43	44.9	2,228	5.4	0.01			
8	" 26	274	63	74	12	2	2	18	4	83	58	30	44	44.9	1,655	28.3	0.14			
9	Mar. 5	315	56	94	5	4	10	24	5	80	51	32	43	44.8	2,372	12.1	0.15			
10	" 12	304	65	89	9	2	5	29	7	69	56	29	43	44.8	2,056	24.4	0.20			
11	" 19	250	49	71	4	2	2	19	2	63	53	35	45	45.0	3,050	15.2	0.64			
12	" 26	213	37	71	8	2	4	20	2	39	63	38	48	45.3	2,327	18.7	0.04			
13	April 2	206	29	68	9	1	2	22	1	42	68	33	48	45.5	1,893	38.3	0.14			
14	" 9	204	36	61	4	—	2	15	1	39	63	33	46	46.0	2,336	32.9	0.12			
15	" 16	243	49	75	7	1	3	29	1	45	64	29	46	46.0	2,756	43.0	0.65			
16	" 23	234	36	67	10	1	3	26	6	35	57	31	43	40.1	1,724	29.2	0.22			
17	" 30	186	30	64	5	1	1	17	3	41	68	37	51	46.0	1,970	43.6	0.05			
18	May 7	218	35	78	2	2	1	19	—	50	64	34	49	47.0	1,874	31.0	0.60			
19	" 14	223	40	71	6	2	4	17	6	47	72	40	55	47.4	1,559	38.6	0.56			
20	" 21	198	33	50	3	1	2	21	3	31	68	40	53	48.6	1,335	61.4	—			
21	" 28	203	32	64	6	1	2	20	5	38	78	37	55	50.0	1,766	68.3	0.02			
22	June 4	186	22	50	3	2	1	20	6	30	68	40	54	50.0	2,380	48.8	0.56			
23	" 11	170	26	41	4	—	2	16	5	22	73	44	57	50.6	2,791	53.9	0.03			
24	" 18	165	21	48	2	2	1	10	5	27	80	43	6	51.5	2,012	43.4	—			
25	" 25	168	26	45	1	2	3	12	4	20	85	44	60	52.1	2,019	41.7	0.16			
26	July 2	164	24	50	1	—	4	12	5	20	76	45	60	53.1	1,513	53.1	0.11			
27	" 9	151	27	45	—	3	8	17	1	20	88	47	66	54.0	1,301	64.3	—			
28	" 16	184	26	56	—	3	6	13	2	24	89	54	70	55.8	1,542	56.3	0.06			
29	" 23	154	25	42	—	1	4	15	4	20	86	49	69	56.5	2,069	40.5	—			
30	" 30	170	28	64	—	1	18	12	1	26	79	50	63	57.0	2,225	38.2	0.60			
31	Aug. 6	183	41	59	—	—	24	12	1	17	75	51	62	56.5	2,734	24.7	1.23			
32	" 13	177	49	44	1	—	1	31	14	1	17	67	49	58	56.0	1,566	20.2	1.13		
33	" 20	179	34	56	—	—	18	19	5	18	76	49	60	55.2	1,678	35.8	0.51			
34	" 27	158	43	45	—	2	19	8	2	16	74	49	61	55.2	1,913	14.9	0.69			
35	Sept. 3	151	30	55	2	2	16	13	—	15	69	43	57	55.2	1,659	32.0	0.28			
36	" 10	169	39	45	—	1	13	13	1	20	80	46	63	55.1	1,154	71.0	0.01			
37	" 17	141	30	35	—	1	16	11	1	18	67	44	56	55.2	2,413	27.8	1.02			
38	" 24	184	40	54	—	—	21	16	3	24	71	48	59	55.0	1,550	15.3	—			
39	Oct. 1	166	28	44	—	2	11	12	4	32	71	42	55	54.9	1,118	41.7	—			
40	" 8	195	41	62	—	2	14	16	4	19	79	50	63	54.7	1,654	29.3	0.80			
41	" 15	153	30	43	—	—	12	11	—	24	76	42	59	55.0	1,295	36.9	0.12			
42	" 22	184	27	51	—	—	6	12	4	23	72	42	54	55.0	1,720	35.8	0.66			
43	" 29	171	28	48	—	2	5	25	1	25	60	33	49	54.2	2,092	16.0	0.12			
44	Nov. 5	183	31	57	—	4	5	19	3	27	60	39	49	53.0	2,085	11.0	1.39			
45	" 12	187	37	57	—	2	13	19	2	26	52	26	36	52.3	1,845	27.1	0.04			
46	" 19	194	24	66	—	4	4	16	—	43	47	30	40	50.6	1,834	5.6	0.32			
47	" 26	203	29	79	—	6	2	12	1	45	53	30	40	49.1	1,645	2.0	—			
48	Dec. 3	210	16	87	—	3	—	16	5	40	50	28	38	48.8	2,178	—	0.23			
49	" 10	200	27	67	—	2	6	15	1	48	54	27	44	48.0	1,844	1.6	0.05			
50	" 17	189	26	63	—	5	6	18	4	26	55	34	43	47.8	2,178	3.9	0.32			
51	" 24	186	33	54	1	4	2	17	—	36	53	30	44	47.9	3,218	5.9	0.83			
52	" 31	219	31	82	—	8	1	23	1	43	56	32	43	47.7	3,761	12.4	0.77			







